L 48552-65 EWT(1) SEC(m) EWA(h) Pab UR/0292/65/000/004/0024/0025

ACCESSION NR: AP5009789

AUTHOR: Lidorenko, F. S. (Doctor of technical sciences, Professor); Meingeyer, I. ... N. (Candidate of technical sciences); ... (Candidate of technical sciences); Gurevich, M. A. (Engineer)

TITLE: Electrochemical transducers for vibration and weight measurements

SOURCE: Elektrotekhnika, no. 4, 1965, 24-25

TOPIC TAGS: electronic component, vibration measurement, physics laboratory instrument

ABSTRACT: Vibration studies were conducted with the transducer fixed to the plat- ... form of an ... diaphragm perpendicular to the direc- ... tion of the vibrations. ... afforded smooth control of vibration fre- ... quencies (20 — 250 cps) and amplitudes (5 — 200 μ).

... on vibration frequency ... for various ... With an increase in the vibra- ... , the output current also in- ... of the electrochemical transducer

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L 04557-65

ACCESSION NR: AP5009789

(transducer) was determined as the ratio of the output current to the square root of the load (in grams). The dependence of γ on ν is shown in Fig. 1c. As is shown, the sensitivity drops linearly with increased vibration frequency. The attachment of small loads (up to 10^{-4} to the diaphragm corresponding enlargement of the transducer chamber increases the sensitivity of the device 1.5--2.5 relative units per gram of additional mass.

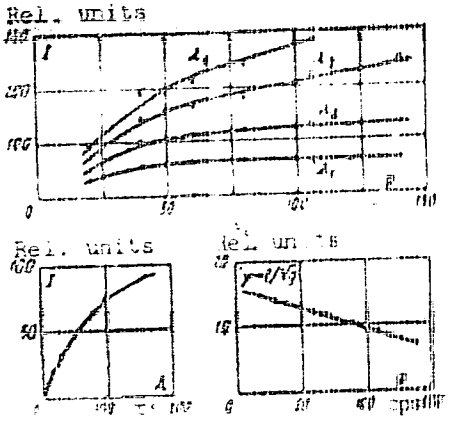

Fig. 1. Dependence of the transducer output current on the vibration frequency for [illegible] amplitudes A_1 = 25 μ, A_2 = [illegible] μ, A_3 = [illegible] μ, A_4 = [illegible] μ. [illegible] dependence of the transducer sensitivity on the vibration frequency

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ACCESSION NR: AP5009789

Electrochemical [illegible] practical interest because of their structural [illegible] pressure itself, the [illegible] short intervals following [illegible] Attempts [illegible]

[illegible] of great [illegible] sensitivity. [illegible] variations of static pressure rather than to the [illegible] limited to [illegible] maintenance application of the load [illegible] of periodic shifts reacts only [illegible] capacity. [illegible] would prolong the recovery time of the depolarized cathode and provide a memory time, i.e., the time in which the transducer output current holds its maximum value.

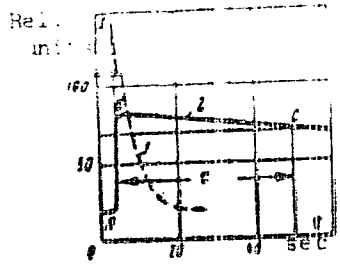

Fig. 2. Output current drop vs time

1 - Common electrochemical transducer; 2 - "memory" transducer.

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ACCESSION NR: AP5009789

The voltage of the polarizing source and the resistance of the transducer anode were among the factors considered. However, reduction of the polarizing voltage and the addition of another resistor in the anode circuit of the ordinary cylindrical-cathode transducer resulted in an increase of memory time of only 0.7 sec. Accordingly, a special transducer was designed to reduce the rate of electrolyte flow through the main cathode chamber, develop a suitable cathode surface and lower correspondingly the cathode current density. The main cathode of improved design is a tightly rolled grid fine-mesh in the channel corner of the translator chambers. A characteristic oscillogram showing the drop in signal current with time is given in [illegible] (curve 2). The section of the curve to the left of A characterizes the improved transducer; AB corresponds to the [illegible] output current at the moment of reading, and BC corresponds to the [illegible] drop from the maximum. For comparison, curve 1 shows the drop in signal current in the usual cylindrical-cathode transducer with a 700 mv volt-ampere characteristic and without an additional anode resistance. Fig. 2 shows the relationship between the memory time and the anode resistance for various values of the polarizing voltage. All experimental data refer to a 1-gram load and transducer sensitivity of about 20 μamp/g. The values of the memory time obtained indicate the feasibility of using electrochemical transducers for modern computer circuits. Orig. art. has 5 figures.

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ACCESSION NR: AP5009789

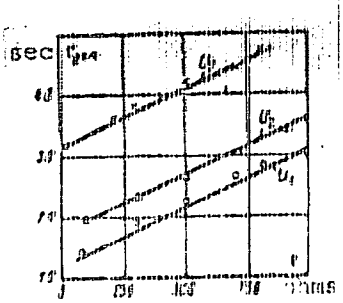


Fig. 3. The effect of anode resistance on the "memory" time of electrochemical transducers for various values of the polarizing voltage U_1 = 600 mv; U_2 = 400 mv; U_3 = 200 mv.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EC, OP

NO REF SOV: 002 OTHER: 000 JPRS, v. 1, no. 6

Card 5/5

LIDORENKO, N.S., doktor tekhn.nauk, prof.; MOISEYEV, I.M., kand.tekhn.nauk; VORONKOV, G.V., kand.tekhn.nauk; GUREVICH, M.A., inzh.; VOROB'YEVA, A.O., inzh.

Electrochemical transducers for the reception of acoustical signals and measurement of small displacements. Elektrotekhnika 36 no.3:3-5 Mr '65. (MIRA 18:6)

LIDORENKO, N.S., doktor tekhn. nauk, prof.; MOISEYEV, I.N., kand. tekhn. nauk; VORONKOV, G.Ya., kand. tekhn. nauk; GUREVICH, M.A., inzh.

Electrochemical transducers for oscillation and weight measurements. Elektrotekhnika 36 no.4:24-25 Ap '65. (MIRA 18:5)

VORONKOV, G. Ya., kand. tekhn. nauk

Effect of chemical additives on the physicomechanical properties of small peat blocks. Izv. vys. ucheb. zav.; gor. zhur. no.9: 44-47 '61. (MIRA 15:10)

1. Kalininskiy torfyanoy institut. Rekomendovana kafedroy fiziki.

(Peat)

VOLAROVICH, M.P.; VORONKOV, G.Ya.

Electrokinetic properties of peat. Koll.zhur. 22 no.3: 301-304 My-Je '60. (MIRA 13:7)

1. Kalininskiy torfyanoy institut, Kafedra fiziki.
(Peat--Electric properties)

VORONKOV, G. Ya.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

35. N. M. Borodachev (Kuibeshev): On the solution of the dynamic contact problem for a half-space under conditions of axial symmetry.

36. J. Brilla (Bratislava). Anisotropic plates with discontinuous supports.

37. B. M. Broude (Moscow): On the essential non-linearity of certain problems on column stability.

38. R. G. Bugiov (Kiev), S. V. Serensen (Moscow): On the determination of safety factors under alternating random loads.

39. A. V. Burlakov (Kharkov): An experimental investigation of creep of turbine diaphragm models.

40. N. P. Burmistov (Saratov): On the stability of constructionally anisotropic circular ring plates.

41. St. Balan, V. Petcu, S. Rautu (Bucharest): The field of application of chromoplasticity.

42. D. B. Vainberg (Kiev): The state of stress of lamellar systems of regular configuration.

43. V. V. Vainshtok (Moscow): Thixotropic properties of lubricants as basis of their rheological characteristics.

44. G. A. Van-Fo-Fi, G. N. Savin (Kiev): Application of Mathieu functions to the investigation of shells.

45. P. M. Varvak (Kiev): Determination of stresses and deformations in massive bodies.

46. E. V. Vedenyev (Gorkii): The flow of bitumens and filled bitumens in pipes.

47. I. I. Vekua, V. I. Muskhelishvili (Tbilisi): Applications of analytic functions in the theory of elasticity.

48. L. Ia. Vlasov (Tbilisi), V. V. Pinadzhian (Erevan): Experimental investigation of the behavior of eccentrically compressed short columns for long loading times.

49. S. V. Vinogradov (Moscow), A. A. Musatov (Kazan), V. P. Pavlov (Moscow): Investigation of soft plastic bodies under combined states of stress.

50. G. V. Vinogradov, V. P. Pavlov (Moscow): Basic peculiarities of the mechanical properties of plastic lubricants.

51. A. I. Vinokur (Leningrad): Fundamentals of the linear theory of visco-elastic impact.

52. L. I. Vinokurov (Kharkov): The solution of dynamic contact problems for foundations using a simplified model.

53. B. F. Vlasov (Moscow): On the equilibrium equations of thick elastic plates.

54. K. F. Voitkovskii (Yakutsk): The creep of ice and frozen soils under combined stresses.

55. M. P. Volarovich, G. Ia. Voronkov, K. P. Kovalevskii, G. I. Lukanov (Moscow): Studies of viscoelastic properties of porous bodies (e.g. peat) by the ultrasonic pulse method.

56. M. P. Volarovich (Moscow), A. Kh. Kim (Minsk): The plane flow of a visco-plastic medium between two planes forming an acute angle.

57. M. P. Volarovich, K. N. Opokin (Moscow): Kinematics and dynamics of the flow of visco-plastic dispersed media past bodies of different shapes.

58. A. N. Volkov (Moscow): On the analysis of a short closed cylindrical shell.

59. S. D. Volkov, N. A. Klinskikh (Sverdlovsk): On the distribution of elastic constants in quasi-isotropic polycrystalline media.

60. I. I. Vorovich (Rostov-na-Donu): A statistical method in the stability theory of shells.

61. I. I. Vorovich (Rostov-na-Donu), A. S. Kosmodamianskii (Saratov): On stress concentration in a plane with an infinite number of holes.

62. B. P. Viazmenskii (Leningrad): Foundations of the general engineering theory of elastic beams.

63. S. S. Vialov (Moscow): The laws of deformation of ice.

64. S. S. Vialov (Moscow): The laws of motion of ice crusts and the theory of visco-plastic flow based on research in the Antarctic.

65. M. D. Galiliaev (Leningrad): A method of obtaining polynomial stress and displacement functions.

66. K. Z. Galimov (Kazan): A contribution to the theory of the finite deformations of thin shells.

67. N. P. Gelin (Moscow): The propagation of elastic-plastic bending and shear waves in the axisymmetrical deformations of shells.

VORONKOV, G. Ya. Cand Tech Sci -- "Study of the electrokinetic properties of peat." Mos, 1960 (Min of Higher and Secondary Specialized Education RSFSR. Main Administration of Tech Engineering Higher Educational Institutions. Kalinin Peat Inst), (KL, 1-61, 192)

VORONKOV, G.Ya., inzh.

Effect of the addition of chemicals on the drying and the physical and mechanical properties of peat. Torf. prom. 38 no. 3:12-14 '61. (MIRA 14:4)

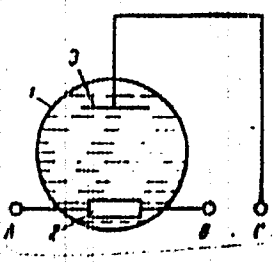
1. Kalininskiy torfyanoy institut.
(Peat)

ACC NR: AP6029786 SOURCE CODE: UR/0119/66/000/008/0005/0007

AUTHOR: Belevtsev, A. T. (Candidate of technical sciences); Voronkov, G. Ya. (Candidate of technical sciences); Lidorenko, N. S. (Corresponding member AN SSSR); Fedorin, V. A. (Engineer)

ORG: none

TITLE: Electrochemically-controlled resistor



SOURCE: Priborostroyeniye, no. 8, 1966, 5-7

TOPIC TAGS: resistor, electrochemically controlled resistor, electrode design, electrolyte

ABSTRACT: The electrochemically-controlled resistor consists of cell 1 (see figure) filled with an electrolyte and containing resistive electrode 2 and control metal electrode 3. D-c control signal is applied between one end of 2 and 3. Readout a-c signal appears between A and B. An

Card 1/2 UDC: 621.316.87

ACC NR: AP6029786

experimental model had an initial resistance of 150 ohms which could be brought down to 10 ohms in 7 sec. Plots of resistance vs. time and control current and hysteresis vs. control current are shown. The capacitance of the cell was 40 millicoulombs with a current of 2 ma and a resistance of 5—150 ohms. So far, the new device has hardly been practical: it cannot operate as a potentiometer; its hysteresis is too large; the resistance-hysteresis relation is nonlinear; only ac is suitable for readout; resistance variation rate is insufficient; the device survives only about 2000 cycles of operation. Orig. art. has: 7 figures and 1 formula.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 003

Card 2/2

L 36293-65
UR/0292/65/000/003/0003/0005

ACCESSION NR: AP5007530

AUTHOR: Lidorenko, N. S. (Doctor of technical sciences, Professor); Voronkov, G. Ya. (Candidate of
Moiseyev, I. N. (Candidate of technical sciences); Vorob'yev, [illegible] (Engineer)
technical sciences); Gurevich, M. A. (Engineer)

TITLE: Electrochemical transducers for acoustic-signal reception and small-displacement measurements

SOURCE: Elektrotekhnika, no. 3, 1965, 3-5

TOPIC TAGS: electrochemistry, acoustic transducer, acoustics

Abstract: The transducer with two-sided diaphragm (Fig. 1a) is a plastic vessel comprising two chambers connected by a channel. The platinum main cathode, cylin- [illegible] in the channel, and the grid electrodes, in the anode [illegible] transducer with one-sided diaphragm is also a two- and cathode chambers. [illegible] (Fig. 1b). This chamber arrangement sharply reduces [illegible] chamber plastic vessel [illegible] effects with no loss in sensitivity. Experimentally determined characteristics of the acoustic transducers are plotted in Figure 2. The dependence of the transducer output current on the [illegible] signal frequency for various values of sound pressure is shown in Figure 2a. The frequency range in which the sensitivity of the trans-

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L 36293-65
ACCESSION NR: AP5007530

ducer to sound pressure is constant increases with increased sound pressure. A drop in sensitivity with an increase in the sound pressure is evident in Figure 2b. Figure 2c shows the dependence of output current on sound pressure. The principal characteristics of the acoustic transducers are as follows: 1) frequency range of linear output (depends on sound pressure), 0.1--8 cps; 2) range of measurable sound pressures, 0.5--2$\cdot 10^5$ newton/m^2; 3) output current, 10--100 μamp; 4) weight, including the electrolyte, 50 g. The electrochemical transducer of small mechanical displacements is a plastic vessel with two concentrically arranged chambers (Fig. 1a). [illegible] a flexible diaphragm arrangement to reduce vibration effects. The dependence of output current on the amplitude of diaphragm displacements at a constant frequency is shown in Fig. 3a; the dependence of output current on the mechanical signal frequency at a constant amplitude, in Fig. 3b. The mechanical-displacement transducer has the following basic characteristics: 1) operational frequency range (depends on the magnitude of diaphragm displacement), 0.1--5 cps; 2) range of measurable displacements, 0.1--10 μ; 3) output current, 5--6 μamp; 4) weight, approx 3 g. [illegible] art. has: 5 graphs, 4 figures.

Card 2/6

SOV/3-58-11-13/38

AUTHOR: Voronkov, G.Z., Candidate of Economic Science, Docent

TITLE: We Are Solving Complex Problems of New Engineering and Advanced Technology (Reshayem kompleksnyye problemy novoy tekhniki i peredovoy tekhnologii)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 11, pp 38 - 40 (USSR)

ABSTRACT: The staff of scientists of the Leningrad Polytechnical Institute has over many years maintained a close liaison with industry. After the 20th KPSS Congress, the institute scientists worked out a long-term plan for scientific research covering the 1956 - 1960 period. This plan foresees the development of over 40 problems in metallurgy, turbine construction, mathematical machines, automation and telemechanics, semiconductors and dielectrics. The institute concluded 35 contracts with the largest Leningrad plants, such as the Metal Plant, the "Elektrosila", "Russkiy Dizel'", "Svetlana" and others. These contracts foresee the solution of complex problems in new engineering and advanced technology. The author states particulars of the contract closed with the Metal Plant, and of the help given to the "Svetlana" Plant. With the assistance of the scientists of the institute and

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the senior course students, a device was constructed for the Combine "Krasnaya Nit'" which facilitated the work of female laborers, raised the production of rewinding and twisting yarn by 20 - 25 %. At present, the workers of the Chair of Automats and Semiautomatic Machines, in cooperation with workers of the "Vulkan" Plant, have designed a technical project of a cotton wool hackling machine producing 160 kg of cotton wool per hour. The machine will help to double production, and will prevent the air from getting contaminated by dust and fuzz. The author goes on to describe the help rendered to industry by other chairs. The professors V.S. Smirnov, S.V. Usov, T.A. Lebedev, M.N. Bushuyev, Yu.A. Nekhendzi, S.A. Kantor, A.A. Lomakin and others participate in the work of the Engineering-Economical Council of the Leningradskiy sovnarkhoz (Leningrad Sovnarkhoz). Over 100 instructors are members of technical councils of various enterprises and institutions. In 1958, the scientists have concluded over 300 economic contracts, 165 of which are directly connected with installations of the Leningrad sovnarkhoz. The scientists' close contact with industry is considerably promoted by the improved quality of training of specialists. Many large plants in Leningrad, such as

We Are Solving Complex Problems of New Engineering and Advanced Technology

the Kirov, "Elektroapparat", "Krasnyy vyborzhets", Metal, Elektrosila, "Svetlana" and others, have become basic plants for a number of chairs. In connection with the plan of reorganization of scientific work, the Chair of Strength of Materials, under the direction of Professor Yu. I. Yagnyy, in cooperation with the Okhtenskiy khimicheskiy kombinat (Okhta Chemical Combine), is studying the chemical properties of plastic materials, particularly polyethylene. The work of Professor M.M. Mikhaylov in the field of insulation and cable engineering is also of scientific and economic interest. He had conducted research on the permeability of polymers, and established their service life. It resulted in the introduction to the cable industry of synthetic material which replaces aluminum, zinc, and other valuable raw products.

ASSOCIATION: Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina (Leningrad Polytechnical Institute imeni M.I. Kalinin)

VORONKOV, I.

Enthusiast. Voen. znan. 41 no.2:43 F '65. (MIRA 18:3)

YELIN, A.; SELYAKOV, [redacted].; VISKIN, S.; LOYKO, N.; BUKHGALTER, B.; VORONKOV, I.; SPERANSKIY, N.

Improvement of planning in the meat industry. Miasn. ind. SSSR 32 no.4:33-37 '61. (MIRA 14:9)

1. Astrakhanskiy myasokombinat (for Yelin). 2. Kazgipromyasomolprom (for Selyakov). 3. Khar'kovskiy myasokombinat (for Viskin). 4. Leninskiy myasokombinat (Kemerovskiy sovnarkhoz) (for Bukhgalter). 5. Novgorodskiy myasokombinat (for Voronkov). 6. Buryatskiy sovnarkhoz (for Speranskiy).
(Meat industry)

VORONKOV, I.

This is what the department of labor organization and wages should be like. Sots. trud 7 no.10:107-113 O '62. (MIRA 15:10)

1. Glavnyy ekonomist Ural'skogo zavoda tyazhelogo mashinostroyeniya imeni Sergo Ordzhonikidze.

(Sverdlovsk—Machinery industry—Production standards)

VORONKOV, I.; IVANOV, A.

Technical progress at the Ural Machinery Plant and economy of labor. Sots.trud 4 no.8:42-47 Ag '59. (MIRA 13:1)
(Ural Mountain region--Machinery industry)

DONTSOV, G., arkhitektor; VORONKOV, I., arkhitektor

State farm villages of the near future. Zhil. stroi. no.8:27-29 '62. (MIRA 15:9)

(Virgin Territory--Rural planning)

VORONKOV, I.A.

FD-2180

USSR/Miscellaneous

Card 1/2 Pub. 129-20/20

Author : -

Title : Life in Moscow University

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, 10, No 2, 171-178, Mar 1955

Abstract : Six brief notices: I. A. Voronkov, "Scientific relations of Moscow Univ. with peoples' democratic countries." N. Filin, "Exhibition on the history of Moscow University." Anonymous "Scientific council Moscow State U. on the natural sciences." G. I. Rozhkova (head of the chairs) and Ye. I. Motina, "Work of the Chairs of the Russian Language for students and foreign aspirants." Anonymous, "In honor of Prof. N. A. Kachinskiy." O. Kibal'chich, "Defense of dissertations" (The candidate dissertations of the following four were defended at the end of 1954 in the Geographical Faculty: I. F. Antonova, "Power engineering and metallurgy of Canada;" K. P. Kosmachev, "Economic geographical characteristics of agriculture in the region between the rivers Lena and Amga, Yakutsk ASSR;" I. N. Guseva, "Wall maps for the

FD-2180

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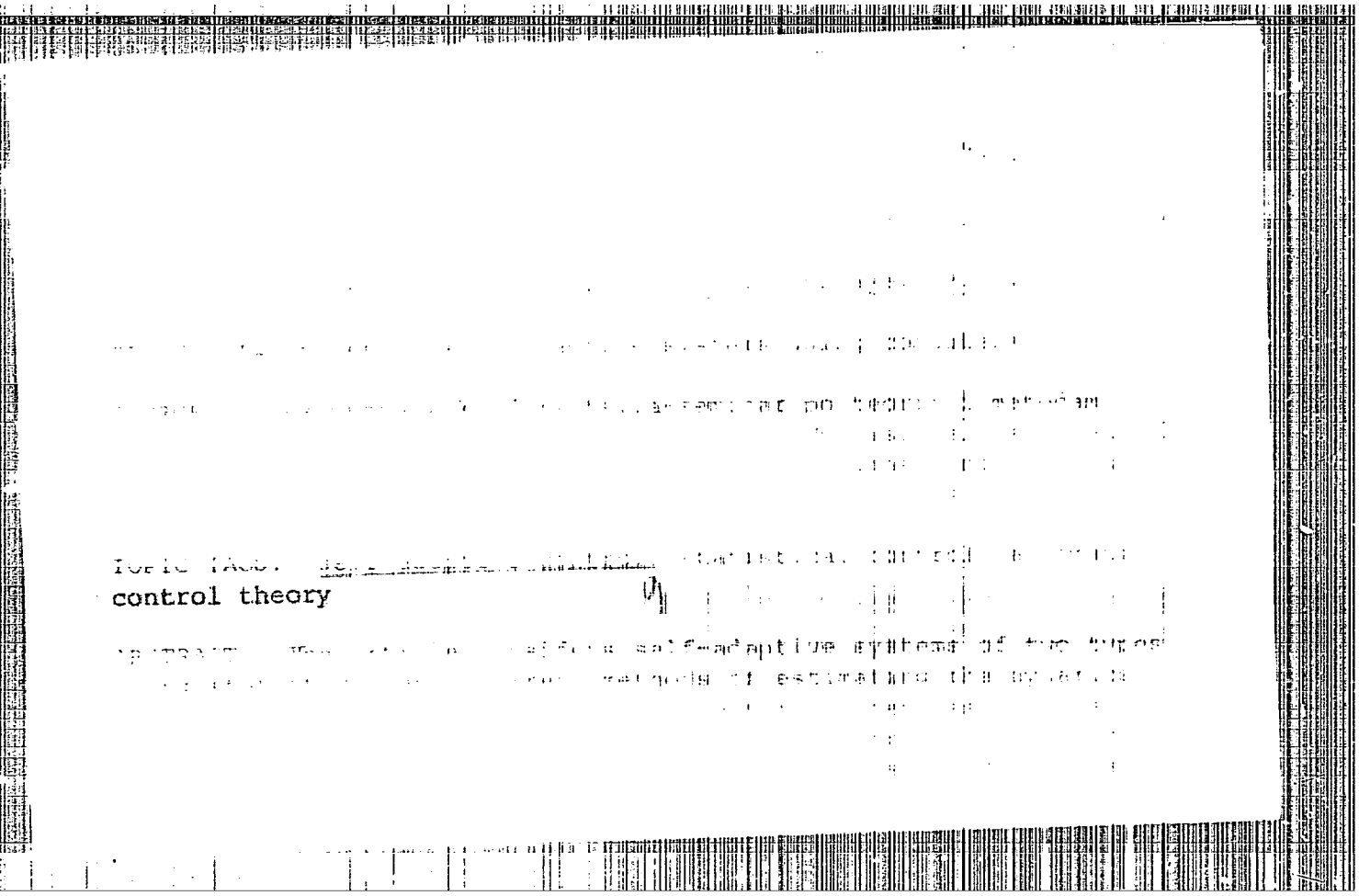
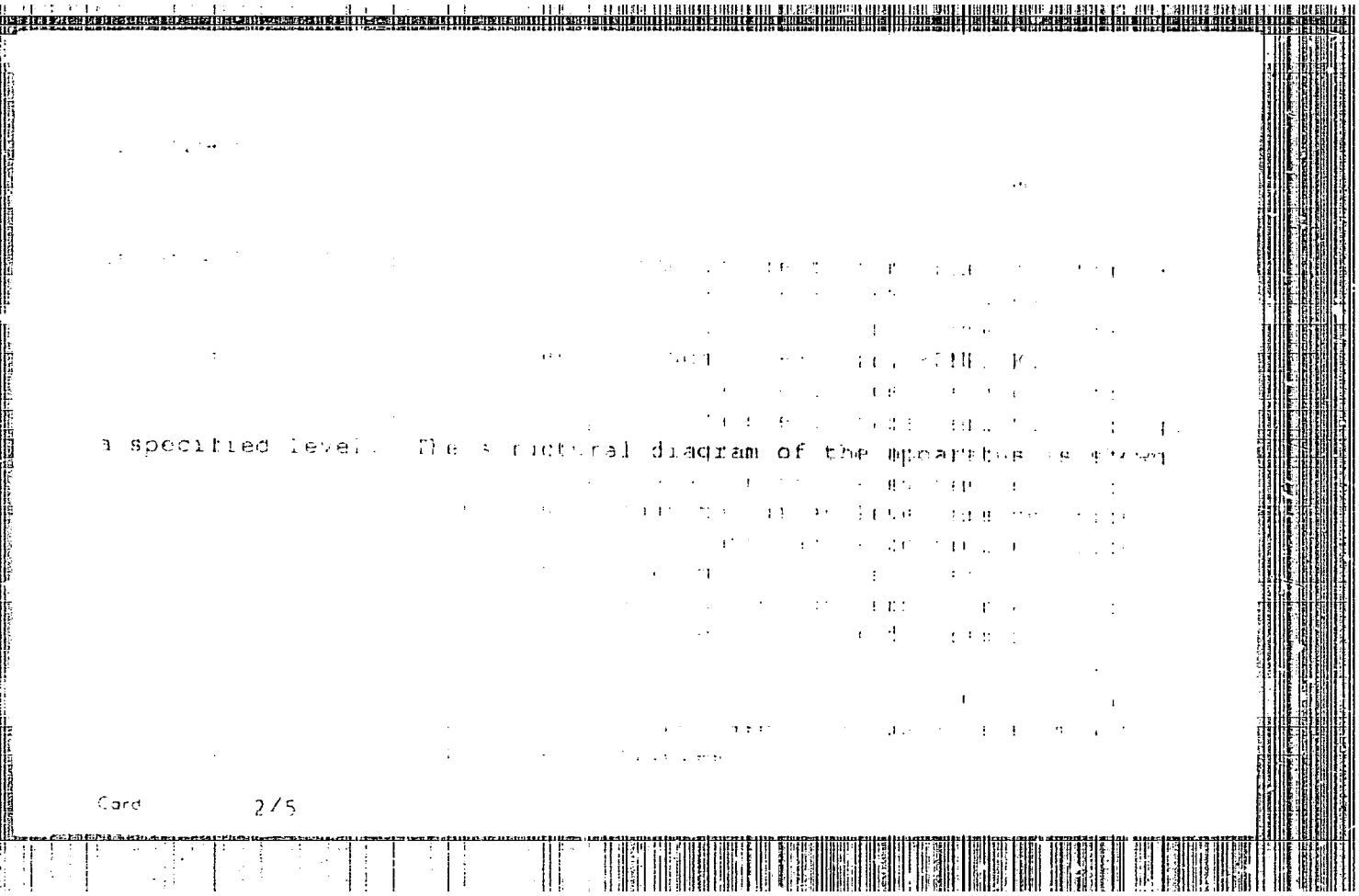
course 'Physical Geography of the USSR' in higher school; I. M. Klebanova, "Landscape characteristics of the sandy massif of the Northeastern Prikaspiy (Caspian Region).").

Institution : -

Submitted : -



control theory



L 27243-65

ACCESSION NR: AT5003903

ASSOCIATION: None

SUBMITTED: 17Aug64 ENCL: 02 SUB CODE: GP, IE

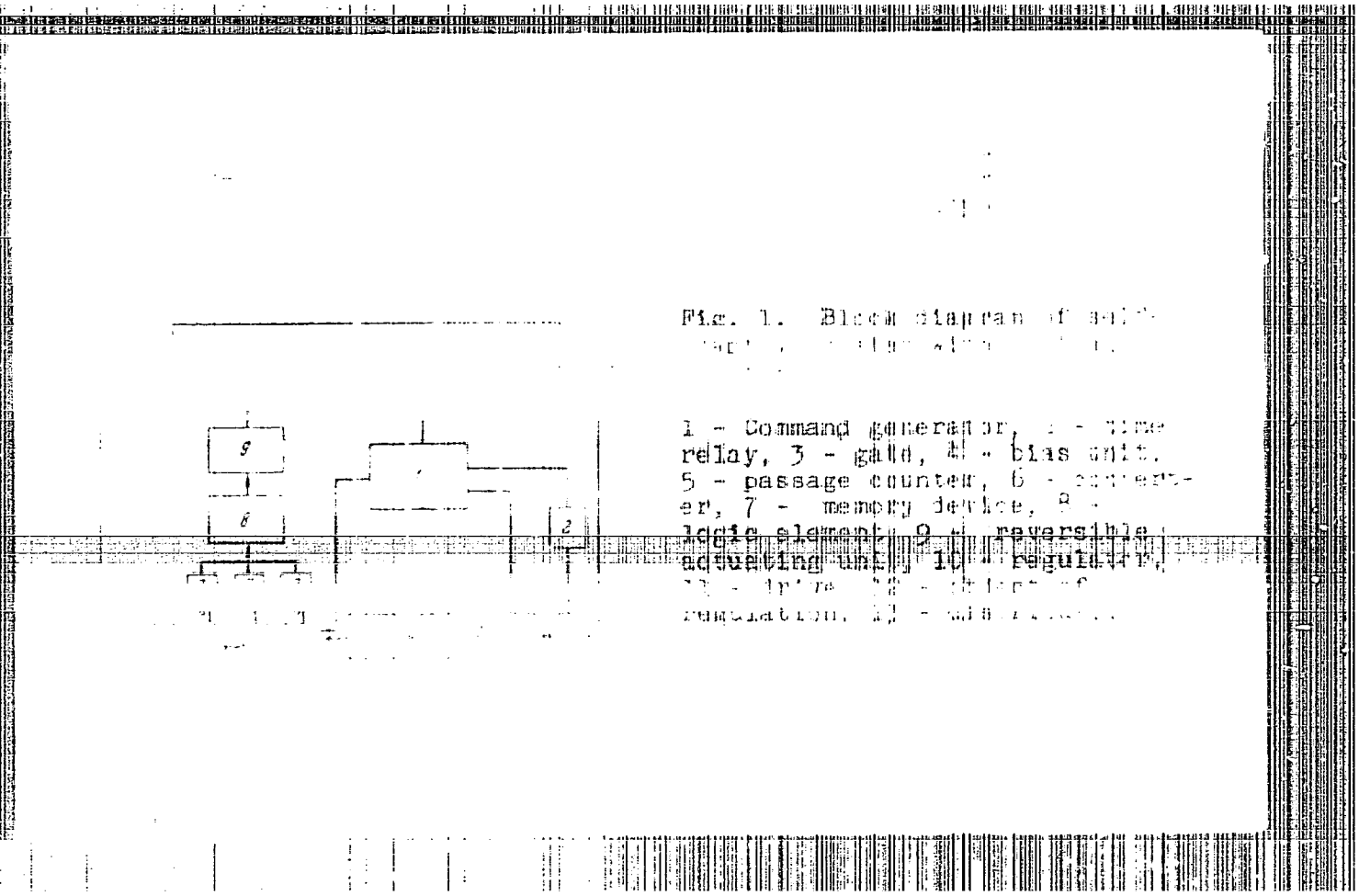
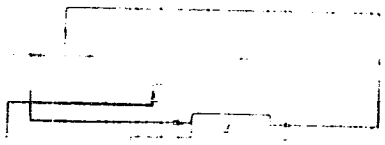


Fig. 1. Block diagram of [illegible]

1 - Command generator, 2 - time relay, 3 - gate, 4 - bias unit, 5 - passage counter, 6 - comparator, 7 - memory device, 8 - logic element, 9 - reversible adjusting unit, 10 - regulator, 11 - drive, 12 - object of regulation, 13 - [illegible]

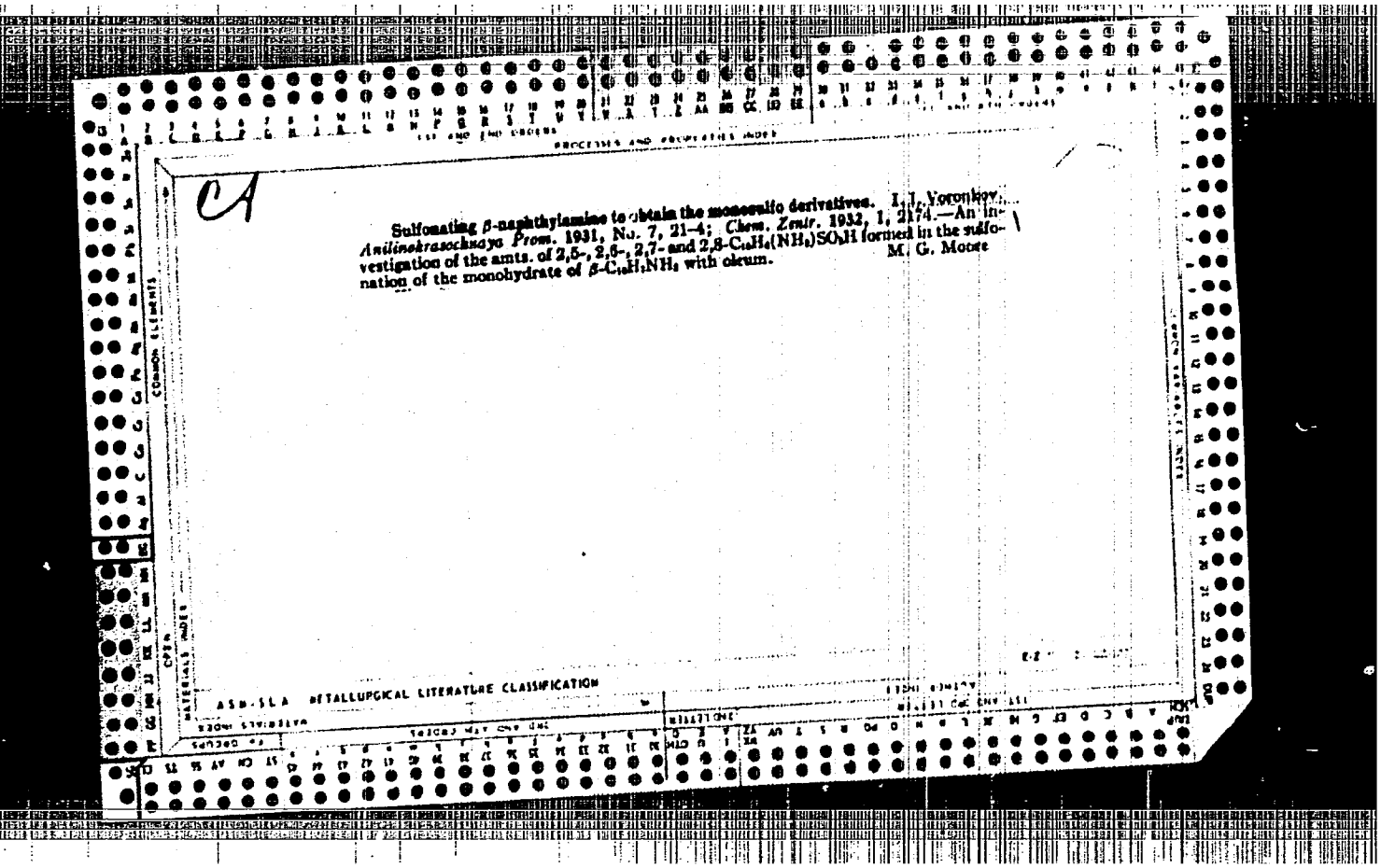
L 27243-65



correlator,

VORONKOV, I.I.; GAL'TSOV, A.D., inzh., retsenzent

[Organization of labor and wages in a machinery manufacturing plant]Organizatsiia truda i zarabotnoi platy na mashinostroitel'nom zavode. Izd.2., perer. i dop. Moskva, Mashinostroenie, 1965. 287 p. (MIRA 18:3)



CA

Sulfonating β-naphthylamine to obtain the monosulfo derivatives. I. I. Voronkov. *Anilinokrasochnaya Prom.* 1931, No. 7, 21–4; *Chem. Zentr.* 1932, 1, 2174.—An investigation of the amts. of 2,5-, 2,6-, 2,7- and 2,8-$C_{10}H_6(NH_2)SO_3H$ formed in the sulfonation of the monohydrate of β-$C_{10}H_7NH_2$ with oleum. M. G. Moore

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

PHASE I BOOK EXPLOITATION SOV/4236

Voronkov, Ivan Ivanovich, and Viktor Nikolayevich Konovalov

Upravleniye proizvodstvom mashinostroitel'nogo zavoda (Production Management in the Machine-Building Plant) Moscow, Mashgiz, 1960. 179 p. Errata slip inserted. 4,500 copies printed.

Reviewer: I. Ya. Kasitskiy, Engineer; Ed.: B.I. Maydanchik, Engineer; Exec. Ed. (Ural-Siberian Division, Mashgiz): M.A. Bezukladnikov, Engineer; Tech. Ed.: N.A. Dugina.

PURPOSE: This book is intended for those engaged in production plant management.

COVERAGE: The book deals with production management practices of leading Soviet machine-building plants and socialist principles and methods of supervising production. The structure of plants, shops, departments, and sections and their functions, powers, and responsibilities are analyzed. The organization of the work of the plant director, chief engineer, shop superintendent, section superintendent, and foreman is discussed. The importance of documentation and means of improving plant accounting and record-management systems are studied.

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Production Management in the Machine-Building Plant SOV/4236

No personalities are mentioned. There are 18 references, all Soviet.

TABLE OF CONTENTS:

Card 2/5

VOROBKOV, I.I.; MARAKOVSKAYA, P.V.; SIDENEV, N.P.; NISHAKOV, A.N., red.

[Practice in the organization of economic work at the Ural Machinery Plant] Opyt organizatsii ekonomicheskoi raboty na Uralmashzavode. Moskva, Ekonomika, 1965. 150 p. (MIRA 18:9)

VORONKOV, I. I.

Technology.

The experience of making popular the work of persons who have revolutionized production at the Ural Machine Plant, Moskva, Mashgiz, 1951.

9. Monthly List of Russian Accessions, Library of Congress, December 1953, Uncl.

VORONKOV, I.I., inzhener, redaktor; DUGINA, N.A., tekhnicheskiy redaktor.

[Economics and organization of production] Ekonomika i Organizatsiia proizvodstva. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1954. 66 p. (MLRA 8:8)
(Efficiency, Industrial)

VORONKOV, I. I.

"Locating and Mobilizing All Factors for Successful Production." Tr. from the Russians. Praha, p. 135, Vol. 2, no. 4, 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

VORONKOV, Ivan Ivanovich; NOVIKOV, V.F., inzh.-ekonomist, retsenzent; DUGINA, N.A., tekhn. red.

[Organization of work and wages in a machinery manufacturing plant] Organizatsiia truda i zarabotnoi platy na mashinostroitel'nom zavode. Moskva, Mashgiz, 1961. 263 p. (MIRA 15:3)

(Sverdlovsk--Wages--Machinery industry)

VORONKOV, Ivan Ivanovich

VORONKOV, Ivan Ivanovich; ROZENBERG, I.A., kandidat ekonomicheskikh nauk, redaktor; GAL'TSEV, A.D., retsenzent; DUGINA, N.A., tekhnicheskiy redaktor

[Work organization and wages in machine building plants] Organizatsiia truda i zarabotnoi platy na mashinostroitel'nom zavode. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1955. 214 p. (MLRA 9:1)

(Machinery industry)

VORONKOV, I.

The organization of work and the standard of production.
Sots.trud. no.4:86-91 Ap '56. (MLRA 9:11)

1. Nachal'nik otdela organizatsii truda i zarplaty Uralmashzavoda.
(Machinery industry) (Efficiency, Industrial)

VORONKOV, I. I.

Increase the role of labor departments. Sots. trud no.4:15-18 Ap '57.
(MLRA 10:6)

1. Nachal'nik otdela truda i zarabotnoy platy Uralmashzavoda.
(Labor bureaus)

VORONKOV, Ivan Ivanovich; KONOVALOV, Viktor Nikolayevich; KASITSKIY, I.Ya., inzh., retsenzent; MAYDANCHIK, B.I., inzh., red.; DUGINA, N.A., tekhn.red.

[Management of a machinery plant] Upravlenie proizvodstvom mashinostroitel'nogo zavoda. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 179 p. (MIRA 13:2)
(Industrial management)

MALAKHOV, Ivan Kuz'mich; VORONKOV, I.I., retsenzent; RIKBERG, D.B., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Organization and planning of production processes in a machine-shop foreman's area] Organizatsiia i planirovanie proizvodstva na uchastke mastera mekhanicheskogo tsekha. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1962. 136 p. (MIRA 15:3)

(Factory management)

VOROV'KOV, I. M.

Kurs teoreticheskoi mekhaniki. Izd. 3. Moskva, Gostekhizdat, 1944. 435 p. diagrs.

Course in theoretical mechanics.

DLC: QA805.V93 1944

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

VORONKOV, I. M.

VORONKOV, I. M. "On certain tranformations of La Grange equations", Sbornik nauch. trudov Mosk. gronogo in-ta im. Stalina, Issue 7, 1948, p. 50-53.

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 24, 1949).

Voronkov, I. M., Prof.

Functional Analysis

Finding the position of a point corresponding to the smallest value of the sum of the n-th degrees of distances. Nauch. trudy Mosk. gor. inst., No. 8, 1950.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

★ Voronkov, I. M. Some properties of the n-lines of a triangle. Monografičeskiĭ sbornik [Monographic collection], pp. 59–65. Izdat. Moskov. Gos. Univ., Moscow, 1951. (Russian)

Consider a triangle ABC and a line through a vertex; this line is called an n-line of the triangle if its point of intersection with the opposite side divides this side in the ratio of the nth powers of the adjacent sides. A triangle has three n-lines, one through each vertex; the n-lines are defined for any real n, in particular for $n=0, 1, 2$ they are the medians, bisectors of the angles, symmedians respectively. The three n-lines are concurrent; let O_n be their point of intersection. The author studies the locus of the points O_n. Denote by a, b, c the sides of the triangle, and assume that $a \geq b \geq a$. If there exists an integer k such that $b^k = ac^{k-1}$, then the locus of the points O_n is an algebraic curve of order k. If $k=2$ this curve is an ellipse, its properties are discussed in some detail. The author also obtains results concerning polygons: if a polygon with n vertices can be inscribed in a circle and if the center of gravity of its vertices is the center of the circumscribed circle then the sum of the squares of all sides and all diagonals equals n^2R^2 where R is the radius of the circumscribed circle. Several references are made to a book by S. I. Zetel' [Modern geometry of the triangle, Uchpedgiz, Moscow, 1940] which seems to contain some of the proofs not given in the paper. *E. Lukacs* (Washington, D. C.)

Voronkov, I. M.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Voronkov, I. M.	"Course of Theoretical Mechanics" (4th edition, textbook)	Moscow Mining Institute imeni I. V. Stalin

SO: W-30604, 7 July 1954

VORONKOV, I.M.

VORONKOV, I.M.; ZHARKOV, D.V., redaktor; TUMARKIN, N.A., tekhnicheskiy redaktor.

[Course in theoretical mechanics] Kurs teoreticheskoi mekhaniki. Izd. 4., perer. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1953. 552 p. (MLRA 7:8)
(Mechanics)

VORONKOV, I. M.

VORONKOV, I.M.; ZHARKOV, D.V., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor.

[Course of theoretical mechanics] Kurs teoreticheskoi mekhaniki. Izd. 5. stereotipnoe. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1954. 552 p. (MIRA 7:7)
(Mechanics)

VORONKOV, I. M.

ANDREYEV,S.Ye.; BOKIY,B.V.; GORODETSKIY,P.I.; GREYVER,N.S.; SHCHUKIN,A.A. GERONT'YEV,V.I.; SKOCHINSKIY,A.A.; TERPIGOREV,A.M.; SHEVYAKOV,L.D.; SPIVAKOVSKIY,A.A.; VERKHOVSKIY,I.M.; VORONKOV,I.M.; YELANCHIK,G.M.; KASHIN,N.V.; SLOBODKIN,M.I.; GUZENKOV,P.G.; ZEMSKOV,V.D.; NOVIKOV,F.S. OSETSKIY,V.M.; SOSUNOV,G.I.; YASYUKEVICH,S.M.; KHAN,G.A.; POPOV,V.M.

In memory of Professor Levenson. Gor.zhur. no.9:60 S '55. (MIRA 8:8)

(Levenson, Lev Borisovich, 1878-1955)

VORONKOV, Ivan Mikhaylovich; ROZAL'SKAYA, N.I., red.

[Course in theoretical mechanics] Kurs teoreticheskoi mekhaniki. Izd.11. Moskva, Nauka, 1964. 596 p.
(MIRA 19:1)

AYZENBERG, Tat'yana Borisovna; VORONKOV, Ivan Mikhaylovich, prof.; OSETSKIY, Vsevolod, Mikhaylovich; YESHCHENKO, N.N., red.

[Manual on the solution of problems in theoretical mechanics] Rukovodstvo k resheniiu zadach po teoreticheskoi mekhanike. Moskva, Vysshaia shkola, 1965. 418 p. (MIRA 18:9)

VORONKOV, Ivan Mikhaylovich, prof.; AYZENBERG, Tusya Bentsionovna; FUFAYEVA, G.I., red.

[Theoretical mechanics; program, methodological instructions and tests for students of correspondence institutions of higher education (scope of the course according to the study plan for 140-160, 180-190 and 200-220 hours)] Teoreticheskaia mekhanika; programma, kratkie metodicheskie ukazaniia i kontrol'nye zadaniia dlia studentov zaochnykh vysshikh uchebnykh zavedenii (ob"em kursa po uchebnomu planu 140-160, 180-190 i 200-220 chasov). Izd.5. Moskva, Vysshaia shkola, 1961. 130 p. (MIRA 17:9)

VORONKOV, I. M. (Moscow)

"A geometrical interpretation of the principle of Gauss".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 January - 5 February 1964.

S/124/61/000/010/004/056
D251/D301

AUTHOR: Voronkov, I.M.

TITLE: Acceleration energy and Appel's equation

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 10, 1961, 12, abstract 10 A87 (Nauchn. tr. Mosk. gorn. in-ta, 1959, sb. 29, 41-57)

TEXT: Several theorems are proposed on the geometrical loci of König points of the first and second kind and their turning motion in a plane, where a König point of the second kind is understood to be one, corresponding to which a theorem on acceleration energy holds similar to König's theorem on kinetic energy. The problem of St. Germain (C.r. Acad. sci. 1901) on the search in a solid body for a geometrical locus of König points of the second kind in the case of arbitrary motion of a free solid body is solved. There follow certain classical results of Gauss, Appel and Bolotov,

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S/124/61/000/010/004/056
D251/D301

Acceleration energy...

and a simple mechanical problem is solved with the help of Appel's equation and Gauss' principle. [Abstracter's note: Complete translation]

Card 2/2

VORONKOV, I.M., prof.

Equilibrium of a solid body resting on a rough, motionless surface. Nauch.trudy MGI no.29:5-40 '59. (MIRA 14:4)

(Equilibrium)

VORONKOV, I.M., prof.

Acceleration energy and Appell's equation. Nauch.trudy MGI no.29: 41-67 '59. (MIRA 14:4)
(Mechanics, Analytic)

VORONKOV, I.M., prof.

One property of the resultant of converging forces and several of its applications. Nauch.trudy MGI no.29:69-85 '59. (MIRA 14:4)

(Mechanics)

AYZENBERG, Tusya Bentsionovna, dots.; VORONKOV, Ivan Mikhaylovich, prof.; OSETSKIY, Vsevolod Mikhaylovich, dots.; OVSYANNIKOVA, Z.G., red. izd-va; GOROKHOVA, S.S., tekhn. red.

[Manual for solving problems in theoretical mechanics] Rukovodstvo k resheniiu zadach po teoreticheskoi mekhanike. Izd.4. Moskva, Gos. izd-vo "Vysshaia shkola," 1961. 390 p. (MIRA 14:10)
(Mechanics, Analytic--Problems, exercises, etc.)

VORONKOV, I.M., prof.; GERNET, M.M., prof.; DOBRONRAVOV, V.V., prof.; KOSMODEM'YANSKIY, A.A., prof.; LOYTSYANSKIY, L.G., prof.; SVESHNIKOV, G.N., prof.; SLOBODYANSKIY, M.G., prof.; YABLONSKIY, A.A., prof.; POGOSOV, G.S., dotsent

[Program in theoretical mechanics for majors in machinery designing, mechanics, instrument designing, electrical engineering, and construction at advanced technical institutions (220 hours)] Programma po teoreticheskoi mekhanike dlia mashinostroitel'nykh, mekhanicheskikh, priborostroitel'nykh, elektrotekhnicheskikh i stroitel'nykh spetsial'nostei vysshikh tekhnicheskikh uchebnykh zavedenii (220 chasov). Moskva, Gos.izd-vo "Vysshaia shkola," 1959. 10 p. (MIRA 13:2)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniya. (Mechanics, Analytical)

VORONKOV, Ivan Mikhaylovich, prof.; AYZENBERG, Tusya Bentionovna; ROZANOVA, G.K., red.izd-va; VORONINA, R.K., tekhn.red.

[Analytical mechanics; program, brief methodological instructions, and control exercises for students of institutions for higher education in nonmechanical subjects by correspondence (with a course extended to 100-120 hours)] Teoreticheskaia mekhanika; programma, kratkie metodicheskie ukazaniia i kontrol'nye zadaniia dlia studentov zaochnykh vysshikh uchebnykh zavedenii nemekhanicheskikh spetsial'nostei (s ob"emom kursa po uchebnomu planu 100-120 chasov). Pod red. I.M.Voronkova. Moskva, Gos. izd-vo "Sovetskaia nauk," 1959. 61 p. (MIRA 13:2)
(Mechanics, Analytic--Textbooks)

VORONKOV, I.M., prof.

Pompeius' triangles. Trudy MVI no.7:3-15 '47. (MIRA 12-1)
(Triangle)

VORONKOV, I.M., prof.

Certain transformations of Lagrange's equations. Trudy MVT no.7: 15-20 '47. (MIRA 12:1)

(Differential equations)

FINKEL'SHTEYN, Grigoriy Markovich; GOLUBEVA, O.M. (Moskva), prof., retsenzent; VORONKOV, I.M. (Moskva), prof., retsenzent; DROZHZHIN, Yu.N., red.; TSIRUL'NITSKIY, N.P., tekhn.red.

[Course in theoretical mechanics; a textbook for students of pedagogical institutes] Kurs teoreticheskoi mekhaniki; uchebnoe posobie dlia studentov pedagogicheskikh institutov. Moskva, Gos. uchebno-pedagog.izd-vo M-va prosv. RSFSR, 1959. 442 p.
(Mechanics) (MIRA 12:5)

VORONKOV, I.M.

BEYLINA, TS.O., inzhener; BLAGONADEZHDIN, V.Ye., inzhener; BOGUSLAVSKIY, P.Ye., kandidat tekhnicheskikh nauk; VORONKOV, I.M., professor, GITINA, L.Ya., inzhener; GROMAN, M.B., inzhener; GOROKHOV, N.V., doktor tekhnicheskikh nauk [deceased]; DENISYUK, I.N., kandidat tekhnicheskikh nauk; DOVZHIK, S.A., kandidat tekhnicheskikh nauk; DUKEL'SKIY, M.P., professor, doktor khimicheskikh nauk [deceased]; DYKHOVICHNYY, A.I., professor; ZHITKOV, D.G., professor, doktor tekhnicheskikh nauk; KOZLOVSKIY, N.S., inzhener; LAKHTIN, Yu.M., doktor tekhnicheskikh nauk; LEVENSON, L.B., professor, doktor tekhnicheskikh nauk [deceased]; LEVIN, B.Z., inzhener; LIPKAN, V.F., inzhener; MARTYNOV, M.V., kandidat tekhnicheskikh nauk; MOLEVA, T.I., inzhener; NOVIKOV, F.S., kandidat tekhnicheskikh nauk; OSETSKIY, V.M., kandidat tekhnicheskikh nauk; OSTROUMOV, G.A.; PONOMARENKO, Yu.F., kandidat tekhnicheskikh nauk; RAKOVSKIY, V.S., kandidat tekhnicheskikh nauk; REGIRER, Z.L., inzhener; SOKOLOV, A.N., inzhener; SOSUNOV, G.I., kandidat tekhnicheskikh nauk; STEPANOV, V.N., professor; SHEMAKHANOV, M.M., kandidat tekhnicheskikh nauk; EL'KIND, I.A., inzhener; YANUSHEVICH, L.V., kandidat tekhnicheskikh nauk; BOKSHITSKIY, Ya.M., inzhener, redaktor; BULATOV, S.B., inzhener, redaktor; GASHINSKIY, A.G., inzhener, redaktor; GRIGRO'YEV, V.S., inzhener, redaktor; YEGURNOV, G.P., kandidat tekhnicheskikh nauk, redaktor; ZHARKOV, D.V., dotsent, redaktor; ZAKHAROV, Yu.G., kandidat tekhnicheskikh nauk, redaktor; KAMINSKIY, V.S., kandidat tekhnicheskikh nauk, redaktor; KOMARKOV, Ye.F., professor, redaktor; KOSTYLEV, B.N., inzhener, redaktor; POVAROV, L.S., kandidat tekhnicheskikh nauk, redaktor; ULINICH, F.R., redaktor; KLORIK'YAN, S.Kh., otvetstvennyy redaktor; GLADILIN, L.V., redaktor;

(Continued on next card)

HEYLINA, TS.O. --- (continued) Card 2.

RUPPENEYT, K.V., redaktor; TERPIGOREV, A.N., glavnyy redaktor; BARABANOV, F.A., redaktor; BARANOV, A.I., redaktor; BUCHNEV, V.K., redaktor; GRAFOV, L.Ye., redaktor; DOKUKIN, A.V., redaktor; ZADEMIDKO, A.N., redaktor; ZASYAD'KO, A.F., redaktor; KRASNIKOVSKIY, G.V. redaktor; LETOV, N.A., redaktor; DISHIN, G.L., redaktor; MAN'KOVSKIY, G.I., redaktor; MEL'NIKOV, N.V., redaktor; ONIKA, D.G., redaktor; OSTROVSKIY, S.B., redaktor; POKROVSKIY, N.M., redaktor; POLSTYANOY, G.N., redaktor; SKOCHINSKIY, A.A., redaktor; SONIN, S.D., redaktor; SPIVAKOVSKIY, A.O., redaktor; STANCHENKO, I.K., redaktor; SUDOPLATOV, A.P., redaktor; TOPCHIYEV, A.V., redaktor; TROYANSKIY, S.V., redaktor; SHEVYAKOV, L.D., redaktor; BYKHOVSKAYA, S.N., redaktor izdatel'stva; ZAZUL'SKAYA, V.F., tekhnicheskiy redaktor; PROZOROVSKAYA, V.L., tekhnicheskiy redaktor.

[Mining; an encuclopedic handbook] Gornoe delo; entsiklopedicheskii spravochnik. Glav.red. A.M. Terpigorev. Chleny glav.red. F.A. Barabanov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po ugol'noi promysh]. Vol.1. [General engineering] Obshchie inzhenernye svedeniia. Redkollegiia toma S.Kh.Klorik'ian i dr. 1957. 760 p.
(Mining engineering) (MLRA 10:10)

VORONKOV, I.M., prof.

General method of calculating kinematic coefficients of mine hoisting. Nauch. trudy MGI no.15:17-29 '55. (MIRA 10:10)
(Machinery, Kinematics of)
(Mine hoisting)

VORONKOV, I.M., professor

Determining the angle of inclination of a rectilinear brachystochrone considering friction. Nauch.trudy MGI no.17:5-10 '56 (MIRA 10:11)
(Mining engineering)

VORONKOV, IVAN MIKHAYLOVICH

VORONKOV, Ivan Mikhaylovich; ZHARKOV, D.V., red.; AKHLAMOV, S.N., tekhn.red.

[A course in theoretical mechanics] Kurs teoreticheskoi mekhaniki. Izd. 7-oe, dop. Moskva, Gos.izd-vo tekhniko-teoret. lit-ry, 1957. 596 p. (MIRA 11:2)
(Mechanics)

VORONKOV, I. S.; SKOMOROSHKIN, A. F.

Bearings (Machinery)

PAV-1 automatic polishing machiner. Podshipnik No. 2, 1953.

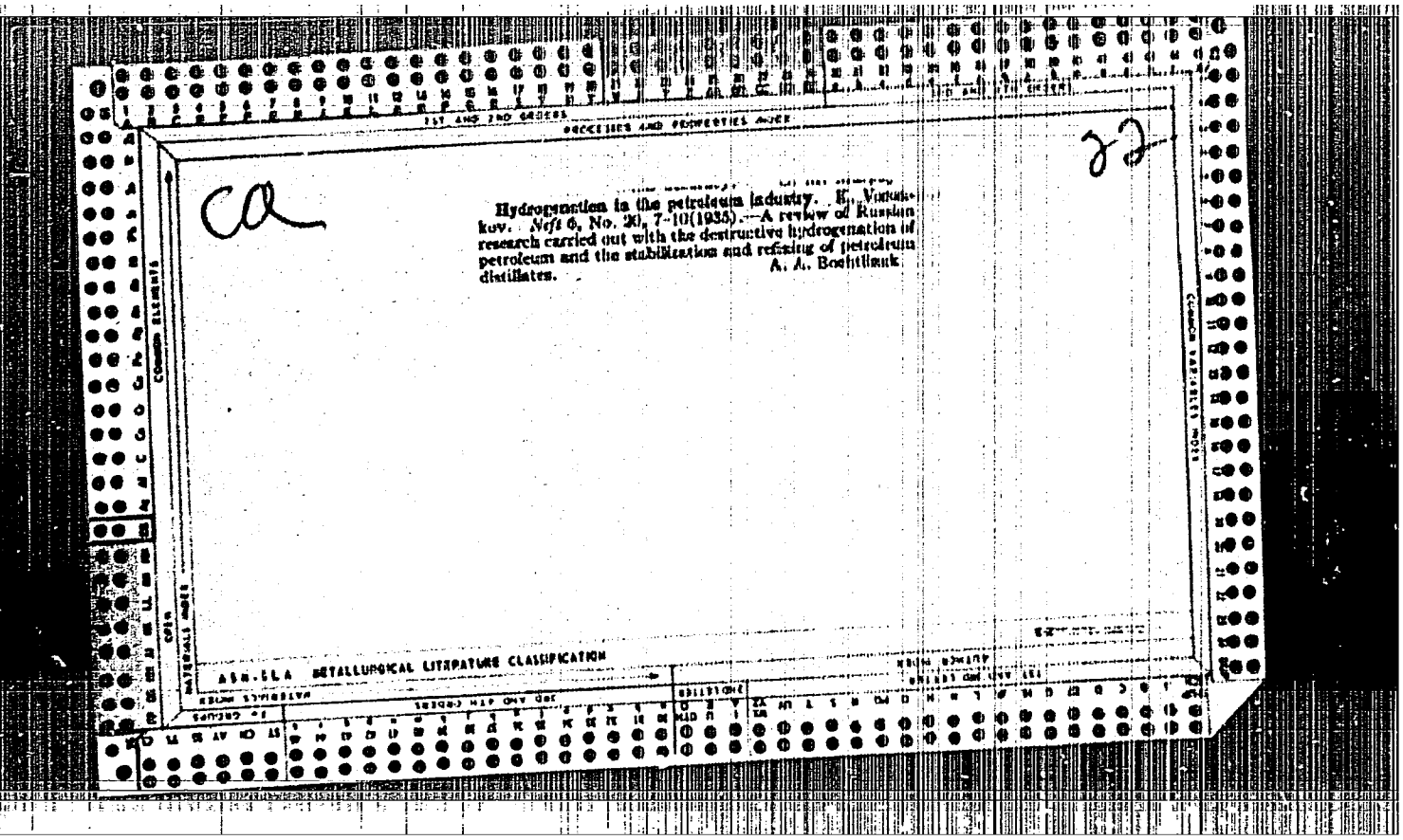
9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

VORONKOV, I. S.; SKOMOROSHKIN, A. F.

Grinding and Polishing

PAV-1 automatic polishing machine. Podshipnik No. 2, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.



Hydrogenation in the petroleum industry. E. Vinnikov. *Neft* 6, No. 20, 7–10(1935).—A review of Russian research carried out with the destructive hydrogenation of petroleum and the stabilization and refining of petroleum distillates.
A. A. Boehtlingk

VORONKOV, L.A., inzh.

Comparative analysis of centralized-control devices with scanning and continuous channels. Priborostroenie no.7:1-4 Jl '65. (MIRA 18:7)

VORONKOV, L.A., inzh; MITROFANOV, I.M., kand. tekhn. nauk; FILYUNIN, G.I., inzh.

Regulation of a double-shaft gas-turbine system according to the traction characteristics of the locomotive. Trudy TSNII MPS no.282: 96-104 '64. (MIRA 17:10)

SOV/119-58-9-5/19

AUTHOR: Voronkov, L. A., Engineer

TITLE: An Economical Method of Linearizing the Scales of Self-Balancing Instruments (O ratsional'nom metode linearizatsii shkal avtomaticheskikh priborov uravnoveshivaniya)

PERIODICAL: Priborostroyeniye, 1958, Nr 9, pp. 12-15 (USSR)

ABSTRACT: Self-balancing compensation instruments are used in engineering practice for measuring and recording low voltages and direct-current e.m.f.'s, voltages or current resulting from all types of transducers. In particular these instruments are used for measuring and recording various nonelectric quantities which have been converted into electric ones by the transducer. In the latter case it is of particular importance to obtain a linear dependence between the nonelectric quantity to be measured and the electric instrument reading. For this purpose a linearization of scales is often used. It is shown in theory how the limits of error, and the most favorable parameter values for self-balancing compensation instruments having linearized scales can be determined. By means of the formulae given, the error of the instrument can also be

Card 1/2

An Economical Method of Linearizing the Scales of Self-Balancing Instruments

SOV/119-58-9-5/13

computed in case the linearizing of the scale has been inaccurate.
There are 2 fi[illegible] **Soviet reference.**

Card 2/2

VORONKOV, L.A.

Analyzing compensating measuring voltage (EMF) and current diagrams. [Trudy] LO NTO Priborprom no.4:51-55 '59. (MIRA 13:2)

(Electric measurements)

L 3090-66 EWT(d)/EEC(k)=2/EED=2

ACCESSION NR: AP5018212 UR/0119/65/000/007/0001/0004
658.562:681.171:621.3.088

AUTHOR: Voronkov, L. A. (Engineer)

TITLE: Comparing the scanning-channel and continuous-channel centralized-control systems

SOURCE: Priborostroyeniye, no. 7, 1965, 1-4

TOPIC TAGS: telemetry technique, automatic control theory

ABSTRACT: Indices describing these system parameters are developed: probability of faultless operation of one channel, same of the entire system, power consumption, weight and size, labor required for equipment manufacture, cost of materials. Formulas describing the above indices permit selecting the type of supervisory (telemeter) system at the earliest stage of planning, on the basis of the generally-formulated technical task. Maximum number of operations of ten Soviet-made relays is given. Orig. art. has: 3 figures, 17 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EC, IE

NO REF SOV: 005 OTHER: 000

Card 1/1

VORONKOV, L.A., inzhener.

Designing compensating measuring circuits for automatic instruments. (MLRA 10:9)
Priborostroenie no.7:8-14 Jl '57.
(Electric measurements)

VORONKOV, L.A.

Automatic electronic potentiometers (compensators) and balanced bridges. [Izd] Sekts. prib. tepl. kontr. LONITOPRIBOR no.1:6-26 '53. (MLRA 8:7)
(Potentiometer)

TITOV, B.M., dotsent; VORONCHIKHIN, V.M., inzh.; TIMOFEYEV, V.A., inzh.; UDUT, V.S., inzh.

Results of investigating the main fans in Kuznetsk Basin mines. Izv. vys. ucheb. zav.; gor. zhur. no.10:165-168 '60.(MIRA 13:11)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni S.M.Kirova. Rekomendovana kafedroy gornoy mekhaniki Tomskogo politekhnicheskogo instituta.
(Kuznetsk Basin—Mine ventilation)
(Fans, Electric)

KRYUKOV, Aleksey Dmitriyevich; VORONKOV, K.N., inzh., retsenzent; POLYA-CHENKO, V.A., inzh., retsenzent; NOSOV, N.A., kand. tekhn. nauk, red.; FOMICHEV, A.G., red. izd-va; BARDINA, A.A., tekhn. red.

[Thermal analysis of motor vehicle transmissions] Teplovoi raschet transmissii transportnykh mashin. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 139 p. (MIRA 14:6)
(Motor vehicles--Transmission devices)

BALTKAYS, Ya. [Baltkajs, J.]; VORONKOV, M.; ZELCHAN, G. [Zelcans, G.]

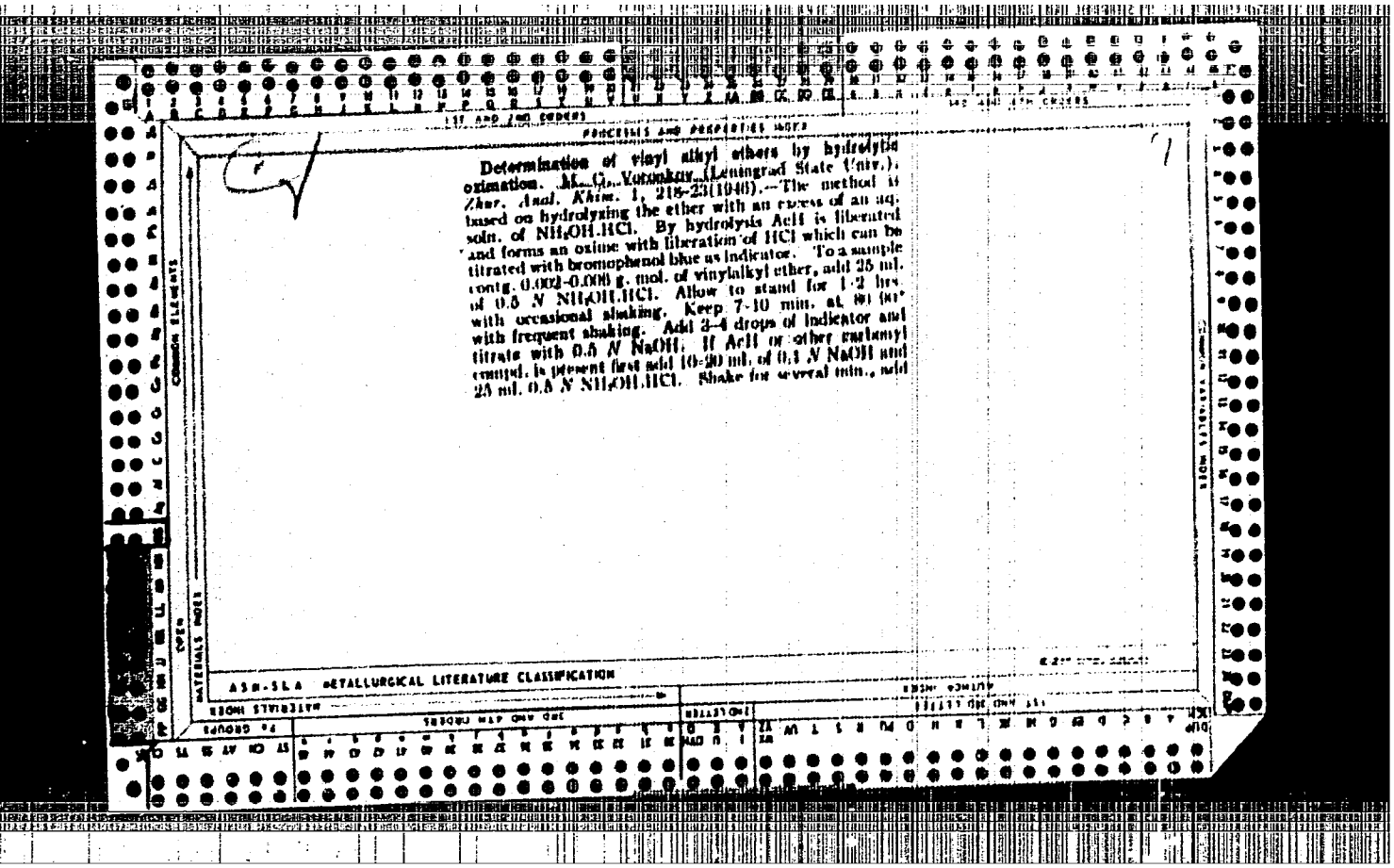
Atranes. Izv.AN Latv.SSR no.2:102-106 '64. (MIRA 17:4)

1. Rizhskiy meditsinskiy institut i Institut organicheskogo sinteza AN Latviyskoy SSR.

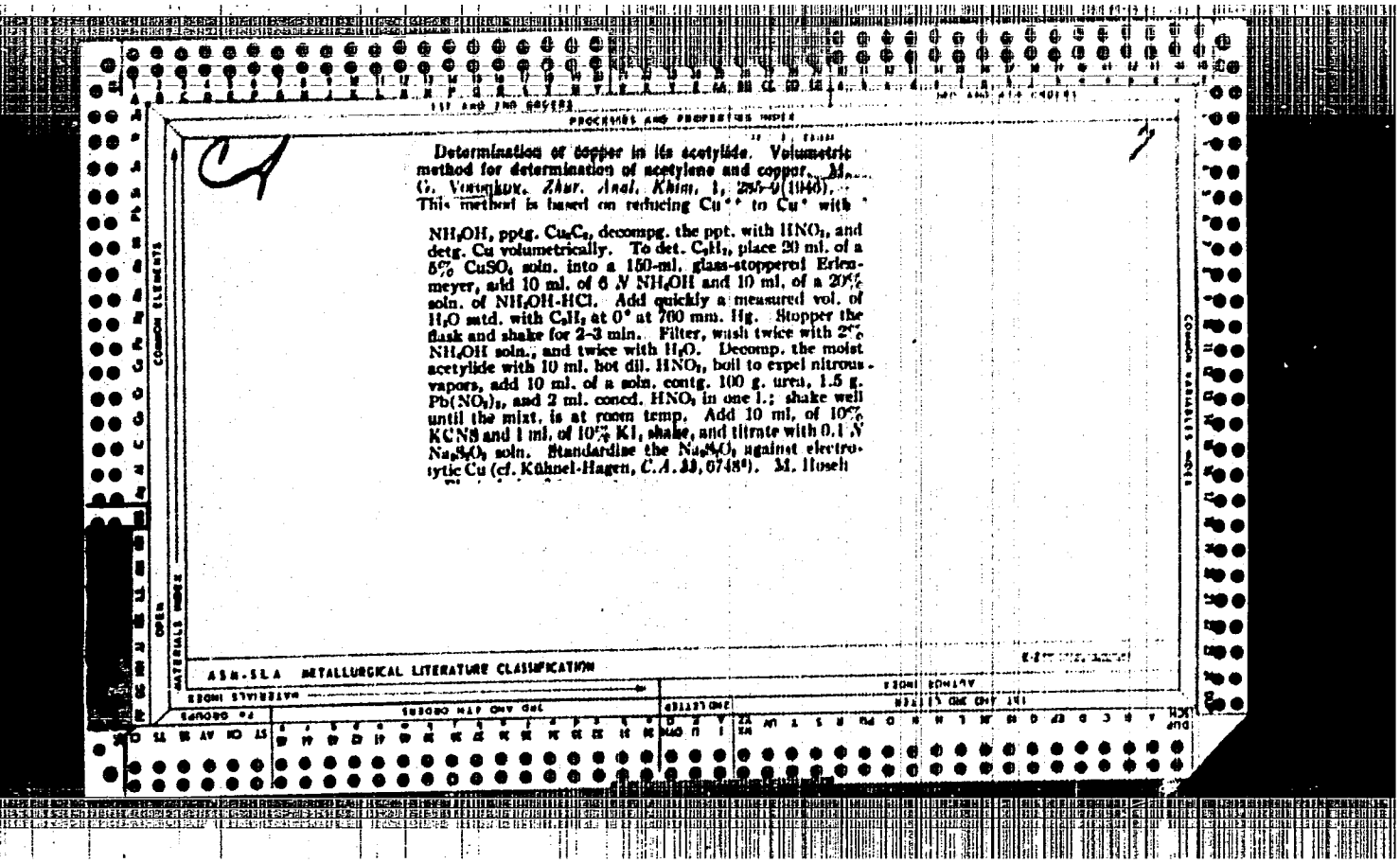
VORONKOV, M. G.

M. G. Voronkov and B. L. Gol'shtein - "Study of the reaction of sulphur with unsaturated compounds. VI. Synthesis of the isomeric z-phenyl thiotolenes." (p. 1218)

SC: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1920, Vol. 20, No. 7.



Determination of vinyl alkyl ethers by hydrolytic oximation. M. G. Votinskiy. (Leningrad State Univ.). *Zhur. Anal. Khim.* 1, 218-23(1946).—The method is based on hydrolyzing the ether with an excess of an aq. soln. of $NH_2OH.HCl$. By hydrolysis AcH is liberated and forms an oxime with liberation of HCl which can be titrated with bromophenol blue as indicator. To a sample contg. 0.002-0.008 g. mol. of vinylalkyl ether, add 25 ml. of 0.5 *N* $NH_2OH.HCl$. Allow to stand for 1-2 hrs. with occasional shaking. Keep 7-10 min. at 80° (at) with frequent shaking. Add 3-4 drops of indicator and titrate with 0.5 *N* NaOH. If AcH or other carbonyl compd. is present first add 10-20 ml. of 0.1 *N* NaOH and 25 ml. 0.5 *N* $NH_2OH.HCl$. Shake for several min., add



Determination of copper in its acetylide. Volumetric method for determination of acetylene and copper. M... G. Vorsin'kov. *Zhur. Anal. Khim.* 1, 255-9 (1946). This method is based on reducing Cu^{++} to Cu^{+} with NH_2OH, pptg. Cu_2C_2, decompg. the ppt. with HNO_3, and detg. Cu volumetrically. To det. C_2H_2, place 20 ml. of a 5% $CuSO_4$ soln. into a 150-ml. glass-stoppered Erlenmeyer, add 10 ml. of 6 *N* NH_4OH and 10 ml. of a 20% soln. of NH_2OH-HCl. Add quickly a measured vol. of H_2O satd. with C_2H_2 at 0° at 760 mm. Hg. Stopper the flask and shake for 2-3 min. Filter, wash twice with 2% NH_4OH soln., and twice with H_2O. Decomp. the moist acetylide with 10 ml. hot dil. HNO_3, boil to expel nitrous vapors, add 10 ml. of a soln. contg. 100 g. urea, 1.5 g. $Pb(NO_3)_2$, and 2 ml. concd. HNO_3 in one l.; shake well until the mixt. is at room temp. Add 10 ml. of 10% KCNS and 1 ml. of 10% KI, shake, and titrate with 0.1 *N* $Na_2S_2O_3$ soln. Standardize the $Na_2S_2O_3$ against electrolytic Cu (cf. Kühnel-Hagen, *C.A.* **33**, 6748⁸). M. Hoseh

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

VORONKOV, M. G.

The Leningrad State Univ. rewarded with the Order of Lenin., (-1946-)

"A Quantitative Determination of the Vinylalkyl Ethers by the Method of Hydrolytic Oxidation,"

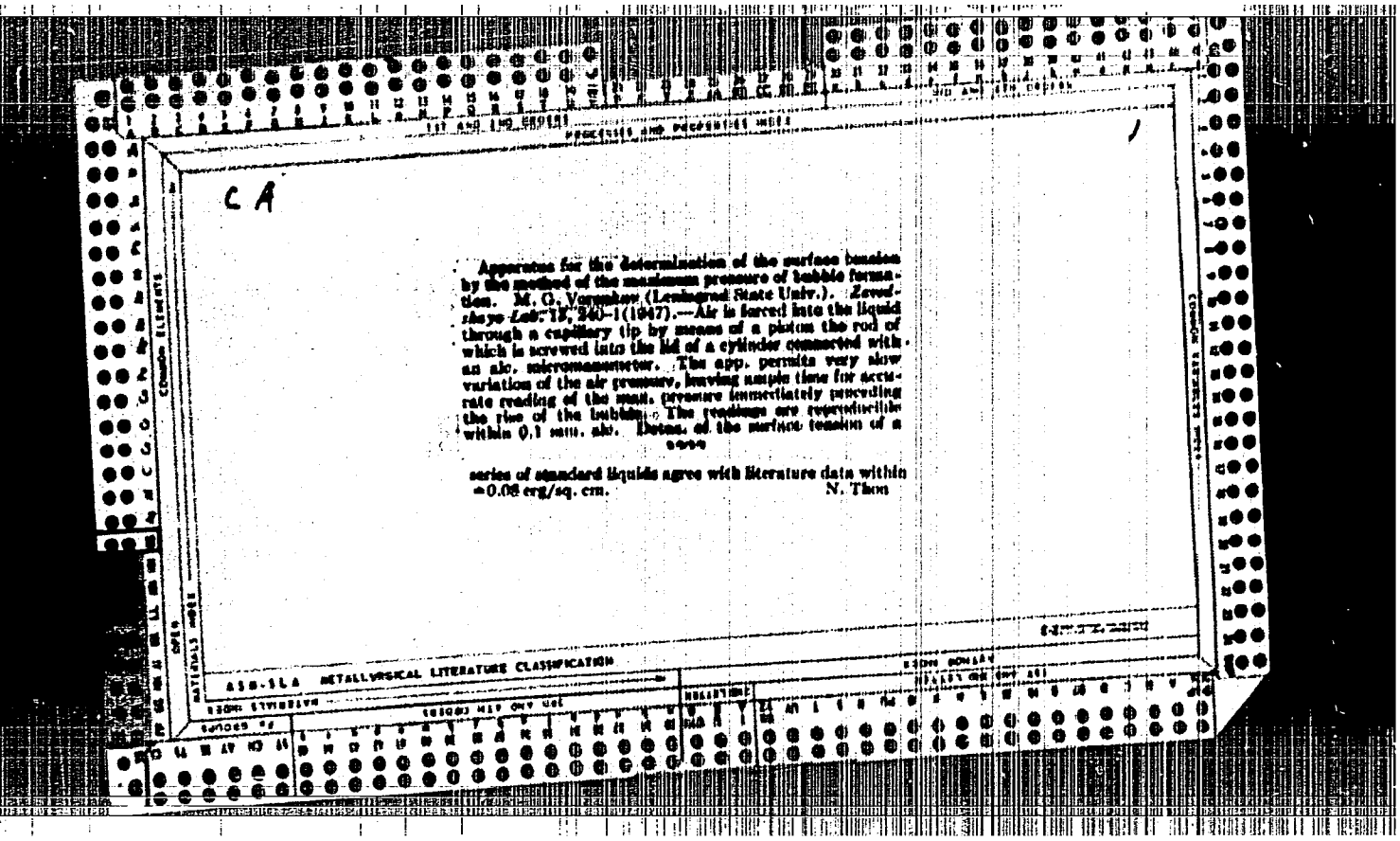
Zhur. Analit. Khim., No. 4, 1946.

VORONKOV, M. G.

Leningrad State Univ. rewarded with the Order of Lenin., (-1946-)

"Estimation of Copper in its Acetilenide, Volumetric Method of Estimation of Acetylen and Copper,"

Zhur. Analit. Khim., No. 5-6, 1946



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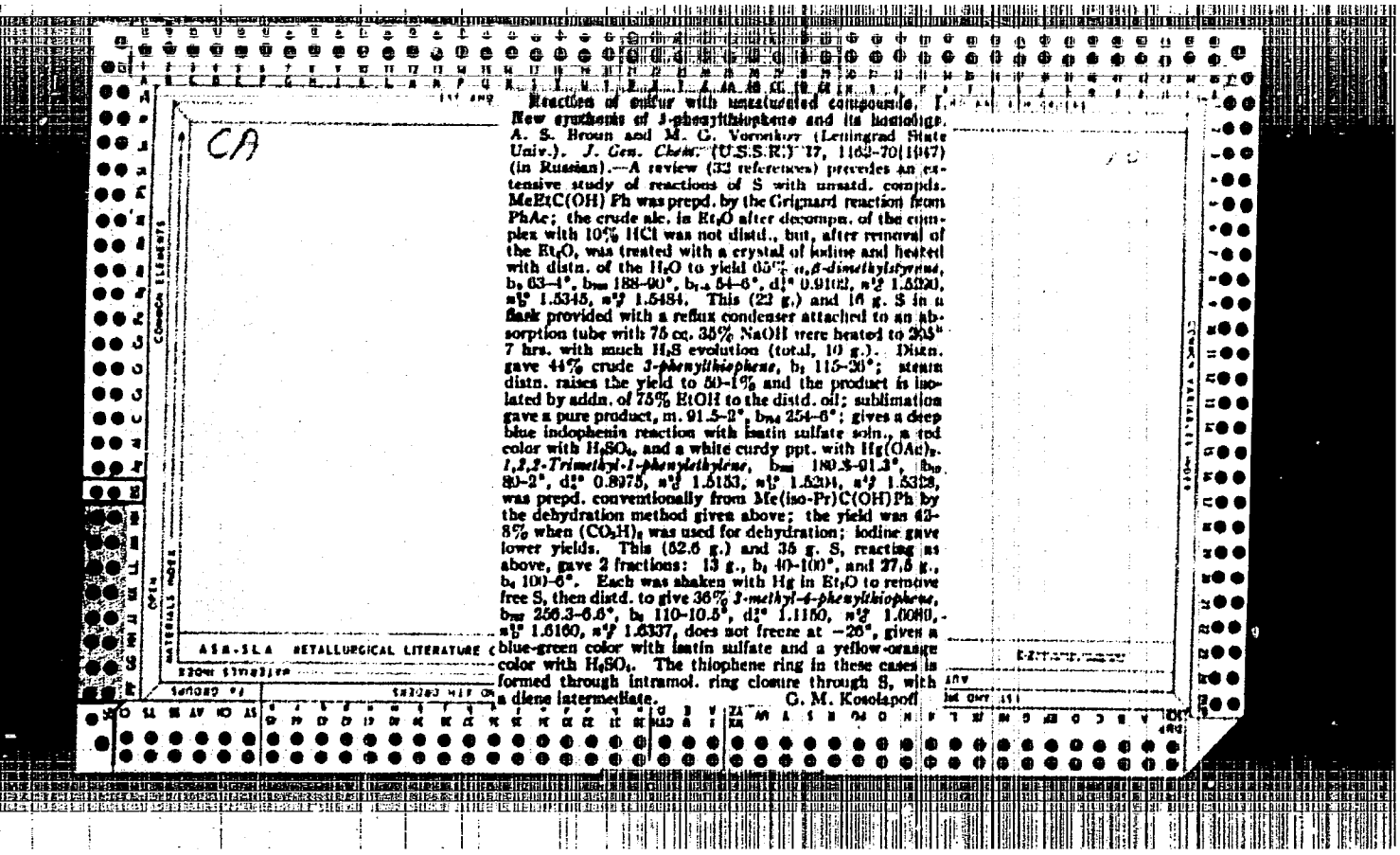
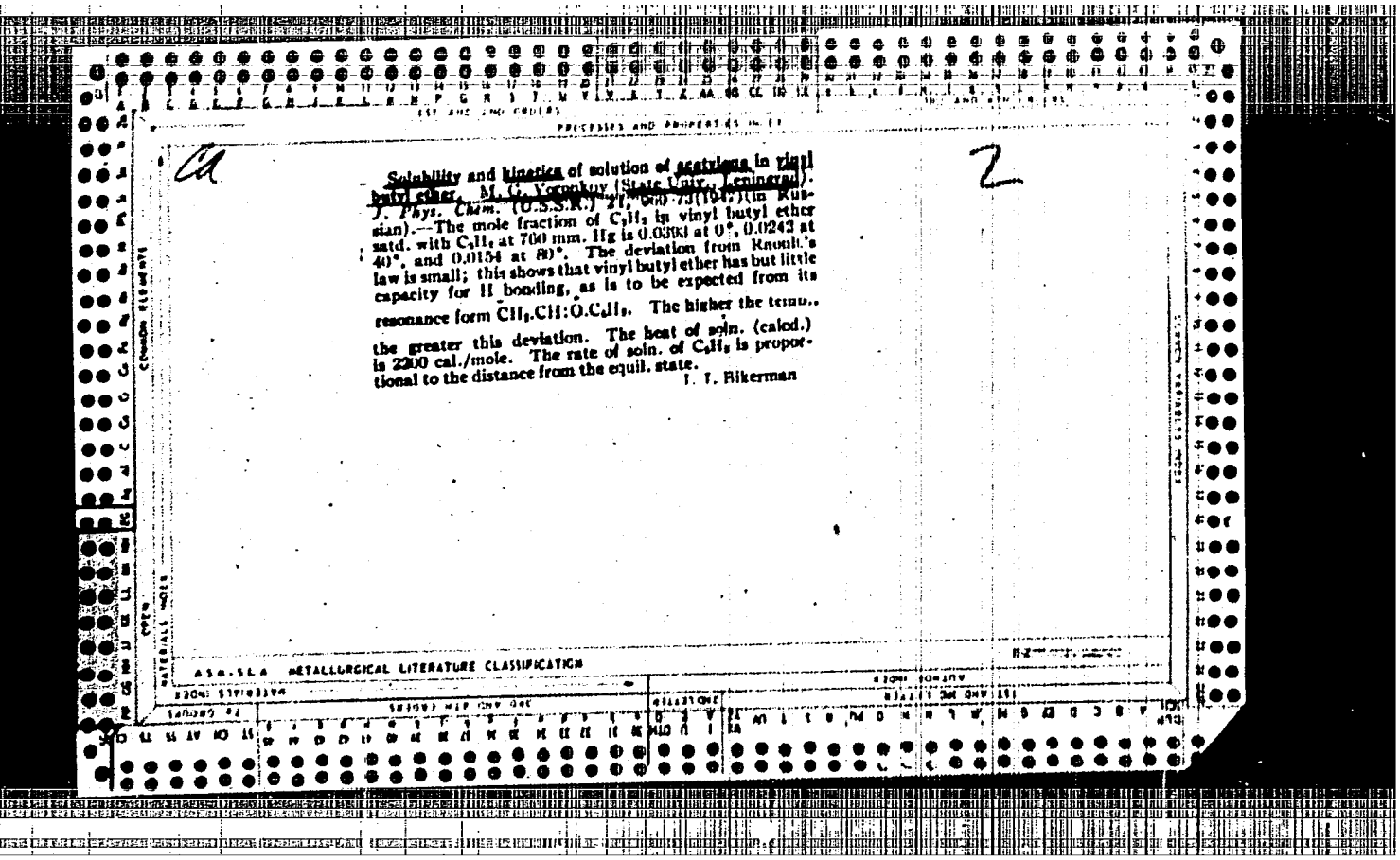
Apparatus for the determination of the surface tension by the method of the maximum pressure of bubble formation. M. G. Voronkov (Leningrad State Univ.). *Zavodskaya Lab.* 13, 240–1 (1947).—Air is forced into the liquid through a capillary tip by means of a piston the rod of which is screwed into the lid of a cylinder connected with an alc. micromanometer. The app. permits very slow variation of the air pressure, leaving ample time for accurate reading of the max. pressure immediately preceding the rise of the bubble. The readings are reproducible within 0.1 mm. alc. Detns. of the surface tension of a series of standard liquids agree with literature data within ±0.08 erg/sq. cm. N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Reaction of sulfur with unsaturated compounds. I. New synthesis of 3-phenylthiophene and its homologs. A. S. Broun and M. G. Voronkov (Leningrad State Univ.). *J. Gen. Chem.* (U.S.S.R.) 17, 1163-70(1947) (in Russian).—A review (32 references) precedes an extensive study of reactions of S with unsatd. compds. MeEtC(OH)Ph was prepd. by the Grignard reaction from PhAc; the crude alc. in Et_2O after decompn. of the complex with 10% HCl was not distd., but, after removal of the Et_2O, was treated with a crystal of iodine and heated with distn. of the H_2O to yield 85% *α,β-dimethylstyrene*, b_3 63–4°, b_{760} 188–90°, $b_{4.4}$ 54–6°, d_4^{20} 0.9102, n_D^{20} 1.5520, n_D^{β} 1.5345, n_D^{γ} 1.5484. This (22 g.) and 16 g. S in a flask provided with a reflux condenser attached to an absorption tube with 75 cc. 35% NaOH were heated to 205° 7 hrs. with much H_2S evolution (total, 10 g.). Distn. gave 44% crude *3-phenylthiophene*, b_3 115–20°; steam distn. raises the yield to 50–1% and the product is isolated by addn. of 75% EtOH to the distd. oil; sublimation gave a pure product, m. 91.5–2°, b_{764} 254–6°; gives a deep blue indophenin reaction with isatin sulfate soln., a red color with H_2SO_4, and a white curdy ppt. with $Hg(OAc)_2$. *1,2,2-Trimethyl-1-phenylethylene*, b_{760} 180.8–91.3°, b_{30} 80–2°, d_4^{20} 0.8975, n_D^{20} 1.5153, n_D^{β} 1.5204, n_D^{γ} 1.5328, was prepd. conventionally from MeEt(iso-Pr)C(OH)Ph by the dehydration method given above; the yield was 42–8% when $(CO_2H)_2$ was used for dehydration; iodine gave lower yields. This (52.6 g.) and 35 g. S, reacting as above, gave 2 fractions: 13 g., b_3 40–100°, and 27.5 g., b_3 100–6°. Each was shaken with Hg in Et_2O to remove free S, then distd. to give 36% *3-methyl-4-phenylthiophene*, b_{760} 256.3–6.6°, b_3 110–10.5°, d_4^{20} 1.1160, n_D^{20} 1.6080, n_D^{β} 1.6160, n_D^{γ} 1.6337, does not freeze at −26°, gives a blue-green color with isatin sulfate and a yellow-orange color with H_2SO_4. The thiophene ring in these cases is formed through intramol. ring closure through S, with a diene intermediate.

C. M. Kosolapoff



Solubility and kinetics of solution of acetylene in vinyl butyl ether. M. G. Voronkov (State Univ., Leningrad). *J. Phys. Chem.* (U.S.S.R.) 21, 649-73(1947)(in Russian).—The mole fraction of C_2H_2 in vinyl butyl ether satd. with C_2H_2 at 700 mm. Hg is 0.0383 at 0°, 0.0243 at 40°, and 0.0154 at 80°. The deviation from Raoult's law is small; this shows that vinyl butyl ether has but little capacity for H bonding, as is to be expected from its resonance form $CH_2{:}CH{:}O{:}C_4H_9$. The higher the temp., the greater this deviation. The heat of soln. (calcd.) is 2200 cal./mole. The rate of soln. of C_2H_2 is proportional to the distance from the equil. state.

I. T. Rikerman

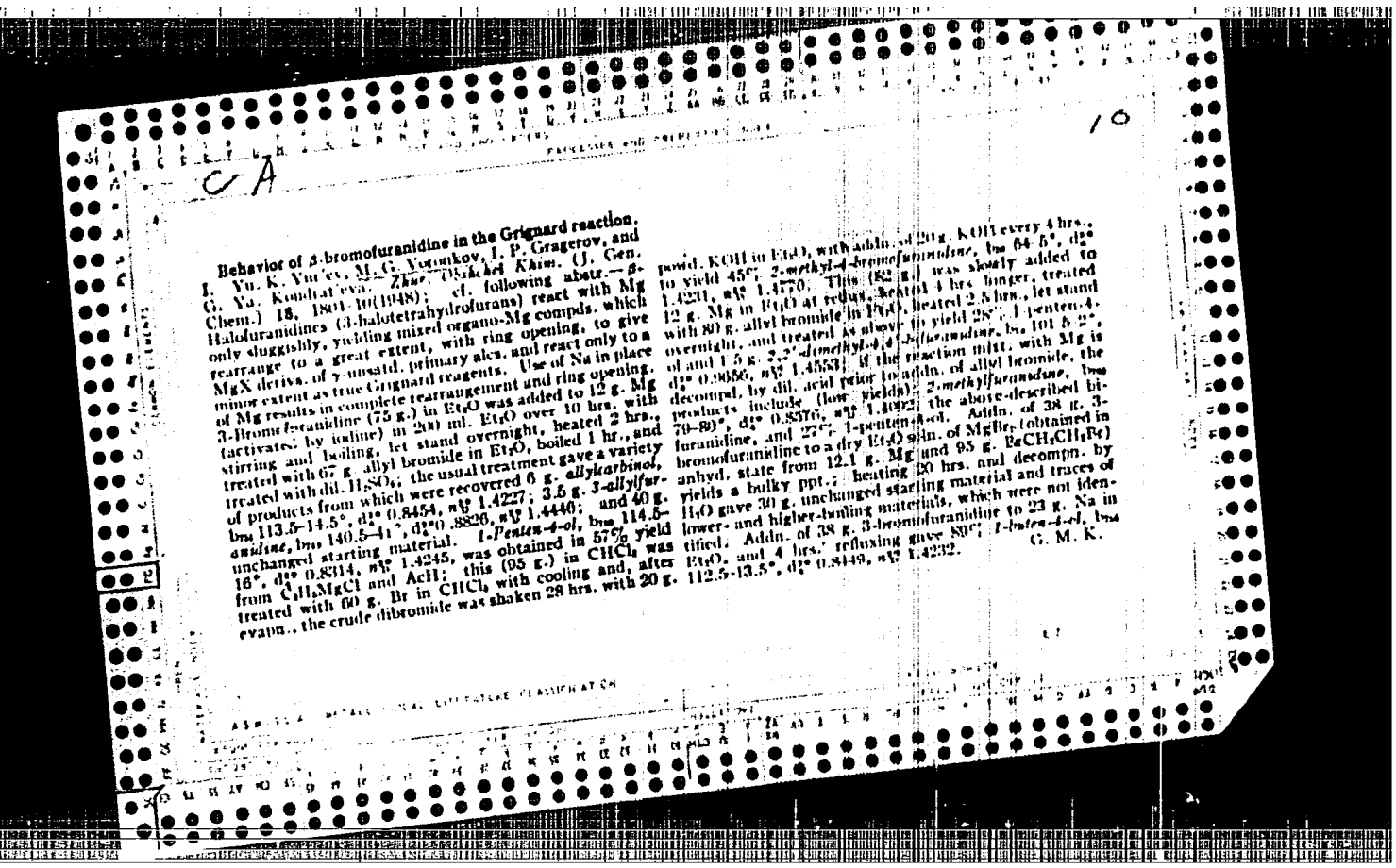
VORONKOV, M. G. PA 64T36

USSR/Chemistry - Synthesis Jan 1948
Chemistry - Phenylthiophene

"Study of the Reaction of Sulfur With Unsaturated Compounds: II, Synthesis of Beta-Phenylthiophene and Its Homologs," M. G. Voronkov, A. S. Broun (Deceased), Chair of Org Chem, Leningrad State Order of Lenin U, 6½ pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 1

Show that as result of the reaction of 2-methyl-3-phenylbutadiene-1.3 and sulfur there is formed beta-phenyl-beta'-thiotolene. There is also the possibility of forming beta-phenylthiophene from the action of sulfur on di-butylbenzole. Submitted 25 Dec 1946. 64T36



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Behavior of 3-bromofuranidine in the Grignard reaction.

I. Yu. K. Yur'ev, M. G. Voronkov, I. P. Gragerov, and G. Ya. Kondrat'eva. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 18, 1801-10(1948); cf. following abstr.—3-Halofuranidines (3-halotetrahydrofurans) react with Mg only sluggishly, yielding mixed organo-Mg compds. which rearrange to a great extent, with ring opening, to give MgX derivs. of γ-unsatd. primary alcs. and react only to a minor extent as true Grignard reagents. Use of Na in place of Mg results in complete rearrangement and ring opening. 3-Bromofuranidine (75 g.) in Et_2O was added to 12 g. Mg (activated by iodine) in 200 ml. Et_2O over 10 hrs. with stirring and boiling, let stand overnight, heated 2 hrs., treated with 67 g. allyl bromide in Et_2O, boiled 1 hr., and treated with dil. H_2SO_4; the usual treatment gave a variety of products from which were recovered 6 g. *allylcarbinol*, bp 113.5–14.5°, d_4^{20} 0.8454, n_D^{20} 1.4227; 3.5 g. *3-allylfuranidine*, bp 140.5–41°, d_4^{20} 0.8826, n_D^{20} 1.4440; and 40 g. unchanged starting material. *1-Penten-4-ol*, bp 114.5–16°, d_4^{20} 0.8314, n_D^{20} 1.4245, was obtained in 57% yield from CH_2:$CHCH_2MgCl$ and AcH; this (95 g.) in $CHCl_3$ was treated with 60 g. Br in $CHCl_3$ with cooling and, after evapn., the crude dibromide was shaken 28 hrs. with 20 g. powd. KOH in Et_2O, with addn. of 20 g. KOH every 4 hrs.; to yield 45%, *2-methyl-4-bromofuranidine*, bp 64.5°, d_4^{20} 1.4221, n_D^{20} 1.4570. This (82 g.) was slowly added to 12 g. Mg in Et_2O at reflux, heated 4 hrs. longer, treated with 80 g. allyl bromide in Et_2O, heated 2.5 hrs., let stand overnight, and treated as above to yield 28% 1-penten-4-ol and 1.5 g. *2,2'-dimethyl-4,4'-bifuranidine*, bp 101.5–2°, d_4^{20} 0.9856, n_D^{20} 1.4553; if the reaction mixt. with Mg is decompd. by dil. acid prior to addn. of allyl bromide, the products include (low yields) *2-methylfuranidine*, bp 70–80°, d_4^{20} 0.8376, n_D^{20} 1.4092; the above-described bifuranidine, and 27% 1-penten-4-ol. Addn. of 38 g. 3-bromofuranidine to a dry Et_2O soln. of $MgBr_2$ (obtained in anhyd. state from 12.1 g. Mg and 95 g. $BrCH_2CH_2Br$) yields a bulky ppt.; heating 20 hrs. and decompn. by H_2O gave 30 g. unchanged starting material and traces of lower- and higher-boiling materials, which were not identified. Addn. of 38 g. 3-bromofuranidine to 23 g. Na in Et_2O, and 4 hrs. refluxing gave 80% *1-buten-4-ol*, bp 112.5–13.5°, d_4^{20} 0.8449, n_D^{20} 1.4232.

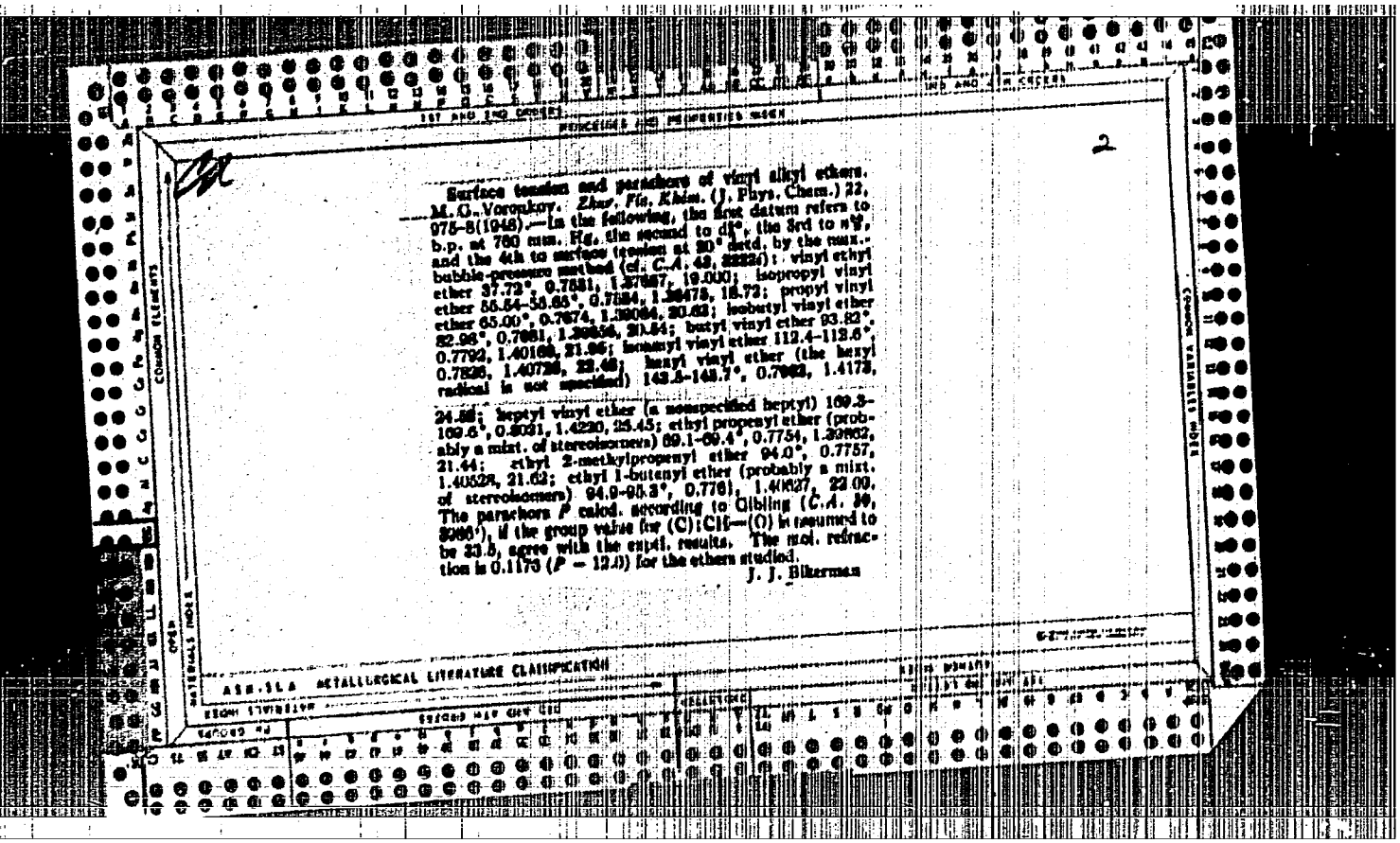
G. M. K.

VORONKOV, M.G.

BROUN, A.S., professor [deceased]; VORONKOV, M.G., assistent.

Studying the reaction of sulfur with unsaturated compounds. Report. no.4. Nauch.biul.Len.un. no.21:8-11 '48. (MLRA 10:3)

1. Kafedra organicheskoy khimii.
(Chemical reactions) (Sulfur)



Surface tension and parachors of vinyl alkyl ethers. M. G. Voronkov. *Zhur. Fiz. Khim.* (J. Phys. Chem.) 22, 975–8(1948).—In the following, the first datum refers to b.p. at 760 mm. Hg, the second to d_4^{20}, the 3rd to n_D^{20}, and the 4th to surface tension at 20° dyn/cm. by the max.-bubble-pressure method (cf. *C.A.* 43, 2222g): vinyl ethyl ether 37.72°, 0.7581, 1.37687, 19.000; isopropyl vinyl ether 55.64–55.85°, 0.7584, 1.38475, 18.72; propyl vinyl ether 65.00°, 0.7674, 1.39084, 20.63; isobutyl vinyl ether 82.98°, 0.7681, 1.39536, 20.84; butyl vinyl ether 93.82°, 0.7792, 1.40168, 21.96; isoamyl vinyl ether 112.4–113.6°, 0.7826, 1.40726, 22.48; hexyl vinyl ether (the hexyl radical is not specified) 143.5–143.7°, 0.7962, 1.4173, 24.86; heptyl vinyl ether (a nonspecified heptyl) 169.3–169.6°, 0.8031, 1.4220, 25.45; ethyl propenyl ether (probably a mixt. of stereoisomers) 69.1–69.4°, 0.7754, 1.39862, 21.44; ethyl 2-methylpropenyl ether 94.0°, 0.7757, 1.40528, 21.62; ethyl 1-butenyl ether (probably a mixt. of stereoisomers) 94.9–95.3°, 0.7761, 1.40827, 22.09. The parachors *P* calcd. according to Gibling (*C.A.* 30, 3966°), if the group value for (C):C$\equiv$—(O) is assumed to be 33.5, agree with the expti. results. The mol. refraction is 0.1175 ($P - 12.1$)) for the ethers studied.

J. J. Bikerman

VORONKOV, M. G.

Iu. K. Inr'ev, M. G. Voronkov, I. P. Gragerov and G. Iu. Kondrat'eva, The reaction of β-bromo-furanidine with the Grignard Reagents. I. p. 1804

The tetra-hydro-furane-halides in which a halogen atom is in a β position to an oxygen atom, reacts with the Grignard reagent to form very sluggishly mixed magnesium-organic compounds which for the most part rearrange with the opening of the cycle into magnesium-halide-alcoholates of γ-unsaturated primary alcohols and react in a small part on the normal type as Grigard reagent.

The Lomanosov State University in Moscow, Holder of the Lenin Order
The Zelinskii Lab. of Organic Chem., September 22, 1947

SO: Journal of General Chemistry (USSR) 28, (80) No. 10 (1948):